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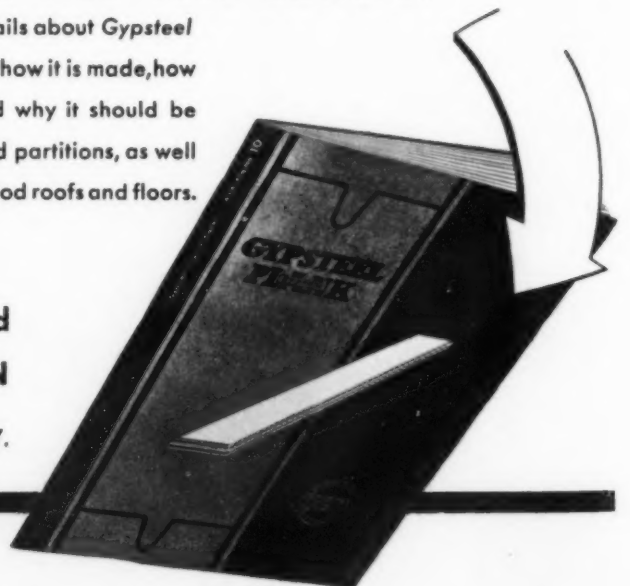


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THE ARCHITECTURAL RECORD

VOLUME 76 NUMBER 4 OCTOBER, 1934

ILLUSTRATED NEWS

A SUBURBAN HOUSE

H. T. Lindeberg, Architect

THE RESUMPTION OF HOME BUILDING. By John H. Fahey, Chairman, Federal Home Loan Bank Board

FEDERAL HOUSING ADMINISTRATION NEWS

PORTFOLIO OF NEW HOUSES

House of Thomas D. Church, Pasatiempo Estates, Santa Cruz, California—William Wilson Wurster, Architect • House at Wilton, Connecticut—Evans, Moore and Woodbridge, Architects • House of Thomas N. St. Hill, Pasadena, California—Donald D. McMurray, Architect • House of Charles B. Vorhis, California—Donald D. McMurray, Architect • House of Clarence E. Guse, Glendale, California—Donald D. McMurray, Architect • House of C. K. Skinner, Southport, Connecticut—Cameron Clark, Architect • Guest House on Estate of J. M. Kaplan, Croton-on-Hudson, New York—Frank J. Forster and R. A. Gallimore, Architects • House of Charles K. Moser at Kent, Connecticut—Allan McDowell, Designer • House of Mrs. Helen Wade at Harbour Green, Long Island; Harmon Realty Corporation—Randolph Evans, Architect • House of Mrs. Lucille D. Boyle, Harbour Green, Long Island—Randolph Evans, Architect • House of Sanford Ward at Harbour Green, Long Island—Randolph Evans, Architect • House at Rockville Centre, Long Island—Maxmillian R. Johnke, Architect • Cape Cod Cottage at Hempstead, Long Island—Maxmillian R. Johnke, Architect • House of Kenneth Stoddard, Syracuse, New York—Charles H. Umbrecht, Architect • Homeland Co. House in Yonkers, New York—William Cain, Architect • House of I. E. Wile in Shreveport, Louisiana—Jones, Roessle, Olschner and Wiener, Architects • House of S. R. Logan, Willow Road, Northbrook, Illinois; General Houses, Inc.—Howard T. Fisher, Architect; Albert S. Bigelow and Philip Will, Jr., Associates • Recreation House for Huntington B. Henry, Swift Estate, Lake Forest, Illinois; General Houses, Inc.—Howard T. Fisher, Architect • All-Steel House for Tennessee Valley Authority, Norris, Tennessee—Built by American Rolling Mill Co.

CHECK LIST FOR NEW CONSTRUCTION AND MODERNIZATION OF HOUSES

DIMENSIONS OF ESSENTIAL EQUIPMENT AND FURNITURE FOR THE HOUSE

PORTFOLIO OF MODERNIZATION

Apartment of Dr. Fritz Wittels, New York City—Designed by Paul Lester Wiener, Director of Contemporanea, Inc., Architects • Remodeled House of Edward Rawson, Skiff Mountain, Kent, Connecticut—Roger H. Bullard, Architect • House on Estate of Herbert L. Nichols at Greenwich, Connecticut—Remodeled from a Cowbarn by Edward Mainwaring-Johnson • Remodeled House of Dr. Ralph G. Stillman, Kent, Connecticut—Allan McDowell, Designer • Remodeled Farmhouse in Stamford, Connecticut—William F. Dominick, Architect • Remodeled House of Mrs. Dorothy R. Ellis, Haddam, Connecticut—Eleanor Raymond, Architect • Remodeled House of Frank Barnes, Haverhill, Massachusetts—Eleanor Raymond, Architect

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PLANNING THE KITCHEN. By Dr. Louise Stanley, Chief, Bureau of Home Economics, U. S. Dept. of Agriculture.

BUILDING TRENDS AND OUTLOOK. By L. Seth Schnitman, Chief Statistician, F. W. Dodge Corporation

THE ARCHITECT'S LIBRARY

THE FEDERATION OF ARCHITECTS, ENGINEERS, CHEMISTS AND TECHNICIANS. A Report by Simon Breines, Chairman of the Projects Committee, Architects' Section

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AN ITALIAN INTERIOR
Villa at Alessio designed
by Arrigo Tedesco-Rocca,
architect.
From DECORATIVE ART,
1934.



DECORATIVE ART 1934. *The Studio Year Book. Edited by C. G. Holme. The Studio Limited, 44 Leicester Square, London, W.C. 2. The Studio Publications, Inc., 381 Fourth Avenue, New York City. 140 pages. Illustrations and colored plates. Paper \$3.50; Cloth \$4.50*

Mr. John de La Valette has written for this year book a prefatory essay on the trend of modern decoration. He criticizes design as it occurs today and gives a forecast of tendencies, suggesting that the limits of "functionalism" have been reached. There is also a special contribution by Mr. B. S. Townroe, Editor of "Housing" and formerly member of the Housing Committee of the London County Council, on "Wise Economy in Building and Furnishing."

HISTORIC HOUSE MUSEUMS. *By Laurence Vail Coleman, Director of The American Association of Museums, Smithsonian Institution, Washington, D. C. 187 pages. Illustrated. \$2.50*

This study is based on field work financed by the Carnegie Corporation of New York and it is published at a time when more than a thousand architects, under the CWA, have been making measured drawings of early American houses. Hundreds of such old places are open to the public as historic house museums.

The first chapter of the book is a short history of American houses, with examples drawn from among houses already dedicated to museum use. The remaining chapters constitute a manual for people concerned with establishing or administering historic house museums. Of especial interest to architects are the chapters on principles and methods of restoring, period furnishings, and the various financial and administrative matters concerning which architects need to advise trustees and societies seeking to preserve old houses. There is a complete directory, by States, of the 400 historic house museums in the United States, and an index intended to serve as a key to some of the more important associations of houses with people and events.

FIRST AID FOR THE AILING HOUSE. *By Roger B. Whitman. Whittlesey House, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York City, 320 pages. Diagrammatical illustrations. \$2.*

How to keep a house in good condition with an economy of labor and expense is of special importance to small home owners of moderate means. These people have asked thousands of questions on the subject of the author, who conducts a daily feature column in the *New York Sun*. The practical advice and information in this book is based on these actual questions from home owners, and covers a number of subjects which often cause trouble, including heating, plumbing, painting, metal work, walls, roof and windows, floors, woodwork and tilework. There is also a chapter on the care, cleaning and minor repair of furniture, and advice as to control and extermination of household insects and outdoor damage. A list is included of suggestions for possible repairs and improvements in the house and its equipment as prepared by the Department of Commerce, Bureau of Standards, Division of Building and Housing.

NEWS OF THE FIELD

The offices of *The Town Planning Review*, formerly at Brownlow House, Liverpool, are now located at the Department of Civic Design, Abercromby Square, Liverpool, 7.

H. Mortimer Favrot and Alan C. Reed, architects, formerly members of Favrot and Livaudais, Ltd., now dissolved, will continue the practice of architecture under the firm name of Favrot and Reed with offices in Suite 402, Nola Building, New Orleans, Louisiana. Charles A. Favrot will remain with this firm as consulting associate.

Lewis P. Hobart, architect, is now located at 525 Market Street, Room 502, San Francisco, California.

Nat O. Matson, architect, announces the removal of his offices to 151 East Post Road, White Plains, New York.

De Witt C. Gross and William H. Litchfield, consulting engineers, have moved from 160 North La Salle Street to 407 Engineering Building, Chicago, Illinois.

There will be a meeting of the State Board of Examiners of Architects in the office of Leonard Bailey, Secretary, Room 1216, Colcord Building, Oklahoma City, Oklahoma, on October 3-6 for the purpose of giving examinations to candidates for state licenses.

Frederick Mathesius, Jr., has been re-elected vice president of the New York Chapter of the American Institute of Architects. Announcement of the election of other officers was made in the September issue.

The University of Pennsylvania announces the appointment to the faculty of the Department of Architecture of the School of Fine Arts, Georges Dengler, Premier Grand Prix de Rome, 1931, as Professor of Design.

Appointment of Jan Ruhtenberg, Swedish architect, to the faculty of the School of Architecture of Columbia University is announced by Dean Joseph Hudnut. Mr. Ruhtenberg will teach design.

The College of Fine Arts, Department of Architecture, Syracuse University, announces two additions to its faculty: Professor L. C. Dillenback, for the past four years Professor of Design at the Columbia University School of Architecture, as Professor of Architectural Design, and Erwin O. Christensen, for four years Educational Director of the American Federation of Arts, as Carnegie Lecturer on the History of Architecture and Art.

Gilbert Rohde will conduct a lecture course at the New School of Social Research, New York City, on the subject of: "Modern Design in Home and Industrial Arts," on Thursdays, 8:20-10 P.M., beginning October 4.

The Museum of Modern Art, 11 West 53rd Street, New York City, announces a National Exhibition of Art. The works shown will be a selection from the painting, sculpture and graphic art done under the Public Works of Art Projects and exhibited in Washington, D. C., during May, 1934. It will include about thirty paintings selected by President and Mrs. Roosevelt to be hung in the lobbies of the White House Office Building.

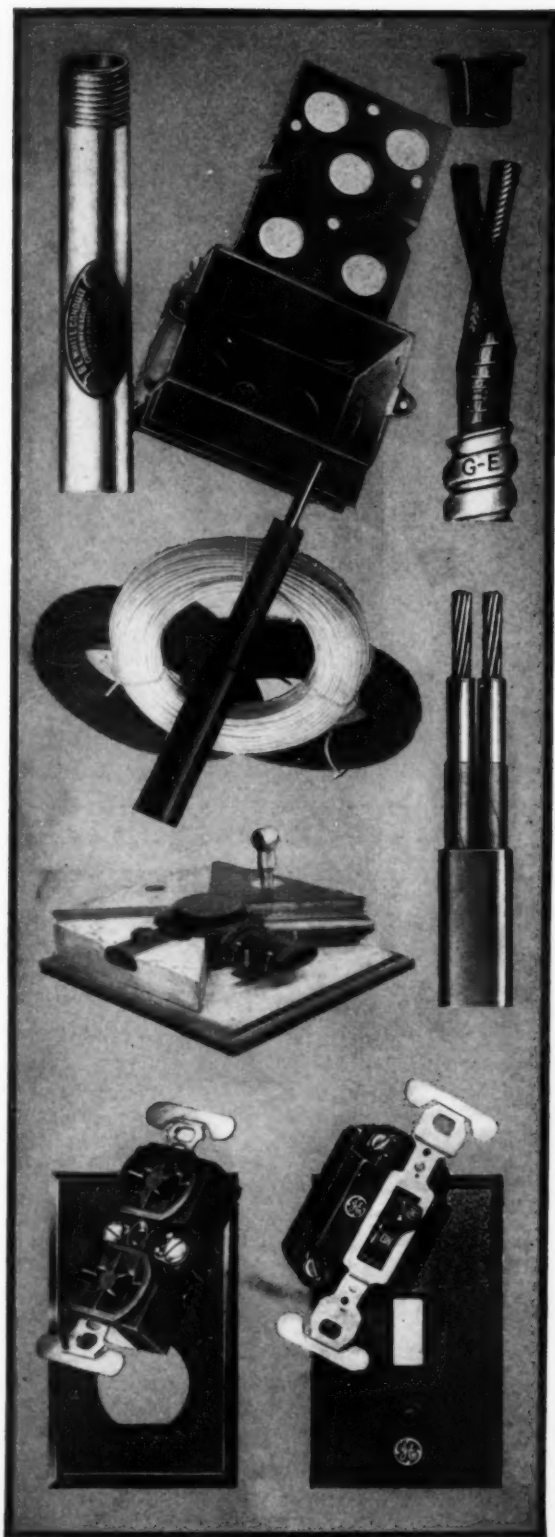
CALENDAR OF EXHIBITIONS AND EVENTS

To October 7	Public Works of Art Project exhibit at Museum of Modern Art, New York City.
October 17-November 5	Housing Exhibition at Museum of Modern Art, New York City.
October 24-26	Twelfth annual convention of the American Institute of Steel Construction, Inc., at the Edgewater Beach Hotel, Chicago.
November 1	Closing date of the 1934 Century of Progress Exposition in Chicago.
November 5-11	American Education Week.
November 14-January 15	Fifth anniversary exhibition at Museum of Modern Art, New York City.
Until December	Remodeling Competition, conducted by the Good Housekeeping Studio, 57th Street and Eighth Avenue, New York City.
December 3-8	Eleventh National Power Exposition, at Grand Central Palace, New York City.
January 30-March 7	Exhibition of work of George Caleb Bingham, Gaston Lachaise, and Henry Hobson Richardson, at Museum of Modern Art, New York City.
March 18-May 14	Exhibition of African Art, Museum of Modern Art, New York City.

A recent memorandum from the members of the National Public Housing Conference to President Roosevelt at the Summer White House in Hyde Park, N. Y., requests the formation of a permanent housing division of the Federal Government in the Department of the Interior. The memorandum directs the attention of the President to the necessity for governmental subsidy if the families of the wage workers of the United States are to be adequately housed. Further suggestions of the Conference relating to the formation of a permanent housing division include: (1) the formulation of a long-range housing program, to continue regardless of changes in administration, or economic fluctuations; and (2) encouragement of the creation of municipal housing authorities by the Federal government.

A midsummer meeting of the Indiana Society of Architects was held at the Spaulding Hotel, Michigan City, Indiana, Friday, August 24, with President Carroll Beeson presiding. In the afternoon the architects were taken to inspect a steel house under construction on the lake front. This house, original in design, illustrates a number of new construction methods and new building materials. A dinner was held at the Spaulding Hotel afterwards. Frank Lloyd Wright delivered an address on the subject of organic architecture.

The Commissariat of Public Health of the USSR intends to create a library and exhibit of material pertaining to the planning of hospitals and medical institutions throughout the world. Architects, consultants and institutions active in this field in the United States are requested to send in whatever material they wish to contribute. Sets of working drawings, standard and special details, photographs, reprints of articles on hospital planning and similar material would be of particular value. These may illustrate a general hospital or a special hospital, such as: maternity, children's, mental, tuberculosis, sanatorium, teaching hospital, and the like. All material may be sent to 1776 Broadway, Suite 1110, New York, N. Y.



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ARCHITECTS

FHA means millions for new construction

Rebuild America! The Modernization drive under the Federal Housing Act passed by the last Congress is already under-way.

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General Electric sees in this huge movement the opportunity to help restabilize building industries. At the same time inadequate wiring conditions in old buildings throughout the country can be corrected and adequate wiring installed in new buildings. To these ends General Electric is lending its complete support to this program to help architects and builders in the many ways at its disposal.

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MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

FROM PROSE...



Architect Manoug Exerjian remodels New York apartment and obtains striking glaze finishes with Dutch Boy

COUNTLESS thousands of commonplace interiors join the modernization parade. Here is one of them . . . a job by Manoug Exerjian, New York architect, who converts a prosaic apartment on 33rd Street into an office of remarkable interest and charm.

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Albany Street, Boston; National Lead & Oil Co.
of Pa., 316 Fourth Avenue, Pittsburgh; John T.
Lewis & Bros. Co., Widener Bldg., Philadelphia.

NEXT MONTH

The Municipal Auditorium and Community Center Building for St. Louis is one of a number of projects provided for in the \$87,000,000 bond issue passed by voters in 1923. The design was developed by a board of 8 architects and 2 engineers. Provision is made for a large auditorium or arena with a seating capacity of 12,000 people, a theater providing seating for 3,500, several smaller recital or assembly halls and extensive exhibition space.



H. Aylette Meade

Municipal Auditorium and Community Center Building in St. Louis.
Plaza Commission, Inc., Architects.

This building, erected in the spring of 1931, is faced externally with wood clapboarding of flush type. It includes an assembly hall and small offices. The assembly hall was built for general gatherings of the residents. It also serves as a voting place for elections, for visiting exhibitions and for the permanent display of documents of local interest.



Village Hall, Dering Harbor, New York. Alfred Easton Poor, Architect.

This Masonic Building complies with the requirements of the Masonic ritual. The building is of normal modern construction. On the first floor is a dining hall to seat 120 persons and also a kitchen. The temple proper is designed on simple lines providing a seating for 120 persons.

OTHER FEATURES:

"How Mortars Contribute to Dry Walls" by L. A. Palmer.

Portfolio of Special Building Types including a cat and dog hospital, brewery, music shell, gasoline service station, an apartment, old people's home.



Dell and Wainwright

Howard Hall at the Causeway, Bucking, Braintree, England.
Sir John Burnet, Tait & Lorne, and D. G. Armstrong, Architects.

THE FEDERATION OF ARCHITECTS, ENGINEERS, CHEMISTS AND TECHNICIANS

A REPORT

BY SIMON BREINES

OF THE PROJECTS COMMITTEE,
ARCHITECTS SECTION.

The Federation of Architects, Engineers, Chemists and Technicians has for its function the safeguarding of the interests and living standards of technical employees. First of several objectives is an organized effort to protect the wages, tenure, and other rights of technicians, employed and unemployed, on civil service, relief and private jobs; this activity has been described in a previous report, published in the July issue.

The second phase of Federation activities is public works, which divides itself into two closely related fields—immediate and long-time. On the latter, a Statement of Principles has already been set forth in the preceding report. It is with the more urgent and immediate phase of public works that the Federation is now most concerned.

The PWA, CWA, FERA, and other official public works, housing and relief measures so far have failed to solve any real problems for the technical employee. One of the factors contributing to this lack of success is the absence of real provision for research and planning. Any legislative provisions for advance planning have been largely neglected in actual practice.

In order to achieve any comprehensive long-time program of public works it is clearly necessary to start with a program of planning and research. The Federation is concentrating on this immediate objective, not only because it seems logical and necessary but also because it means the immediate, socially useful employment of technical men.

The New York Chapter of the Federation, through its Public Works Co-ordinating Committee, has taken the initiative in this matter. At a recent combined meeting of the Projects Committees of the several sections—the architects, engineers and the chemists—it was resolved to call upon the city administration to undertake a research and planning project. This project would be completely dissociated from the Department of Public Welfare or other relief or charity agencies and would not be of a temporary "made-work" character. It would operate under a centralized authority and would incorporate and coordinate all existing technical planning and research projects and staffs. It would employ thousands of additional technical men and women in comprehensive fact-finding and planning for the development of New York City. The resolution also calls for adequate representation of employee organizations in all the administrations of the project.

In the resolution submitted to Mayor LaGuardia specific research and planning proposals were suggested.

Some of these proposals have already been fully developed by the Committees and others are in process of development.

The Chemists, for example, believe that they can provide employment of large numbers of chemical technicians by establishing the basis for a far-sighted, socially useful program in connection with

- (1) Public health standards:
 - (a) garbage and sewage disposal.
 - (b) air and water pollution.
 - (c) preventive medicine.
- (2) Standards of food and an adequate inspection system both in the laboratory and in the field.

The Engineers suggest projects on:

- (1) Coordination of transit facilities.
- (2) Public utility services.
- (3) Thermal reclamation of waste.

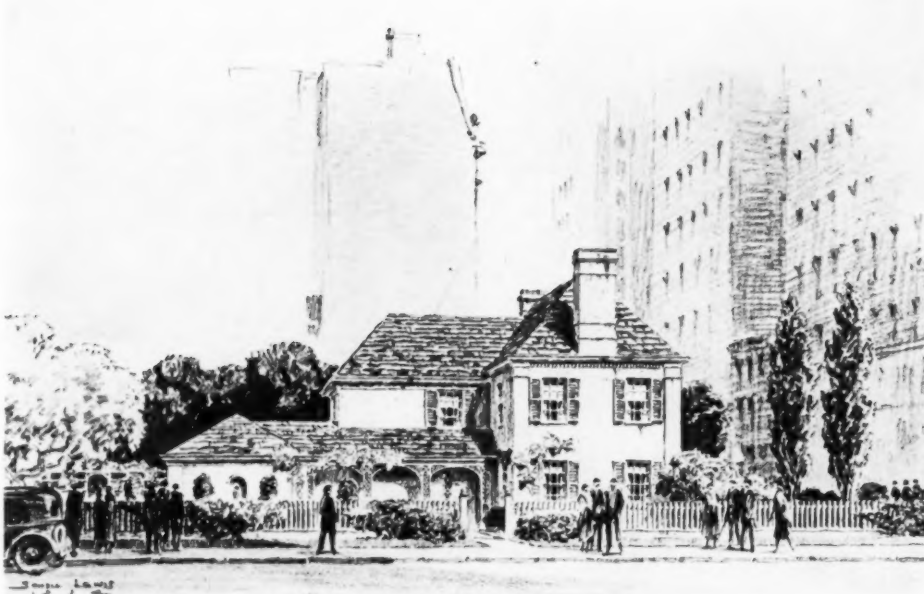
The Architects advocate:

- (1) Coordinated city planning, including specific housing and slum clearance, schools, hospitals, parks, and the like.
- (2) Socially acceptable standards of housing, hospitalization, and educational and recreational facilities.
- (3) Enforcement of such standards in addition to the various existing codes through the immediate increase in the number of technically trained inspectors.
- (4) More efficient and economic condemnation and demolition of sub-standard houses, hospitals, schools and other structures to provide areas for the progressive construction of new elements developed in the research and planning project.

In support of this proposal, the New York Chapter is arranging to send committees to the City Hall. These committees will be accompanied by as large a delegation as can be mustered from the membership. Other chapters are undertaking similar proposals.

●

In conclusion, the Federation of Architects, Engineers, Chemists and Technicians urges all technicians—those working in civil service, in private industry and offices, on PWA projects, and also those now unemployed—to join with it in its various organized efforts. Dues are 25 cents a month for members who are employed and 10 cents a month for those who are unemployed. The new address of the National Headquarters of the Federation of Architects, Engineers, Chemists and Technicians is 119 East 18th Street, New York, N. Y.



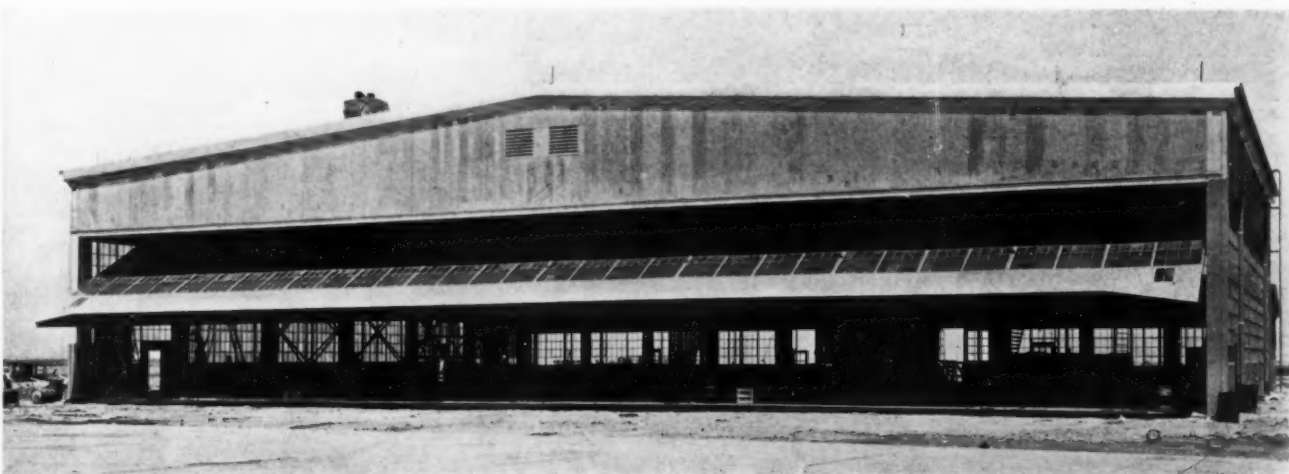
SMALL HOUSE BEING BUILT ON \$1,000,000 SITE: This Georgian-type dwelling is now being constructed at the northeast corner of Park Avenue and Thirty-ninth Street, New York City, by Better Houses in America to demonstrate what the dollar will buy in the construction field. Roger H. Bullard and Clifford C. Wendehack are the architects.

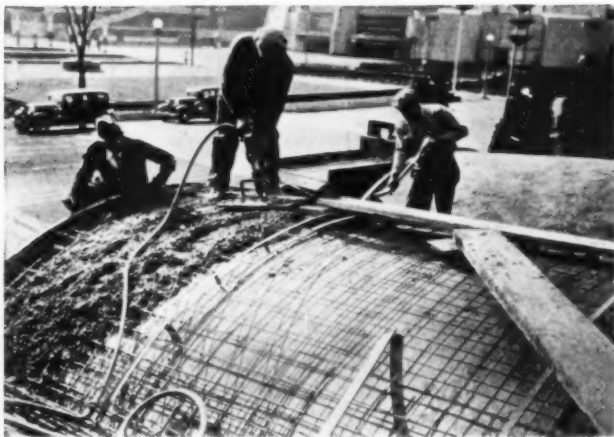
\$2,000 HOMESTEAD (right): Houses like this are being constructed at Cumberland Homesteads, Crossville, Tennessee, one of the projects being developed by the Subsistence Homesteads Division of the Department of the Interior.



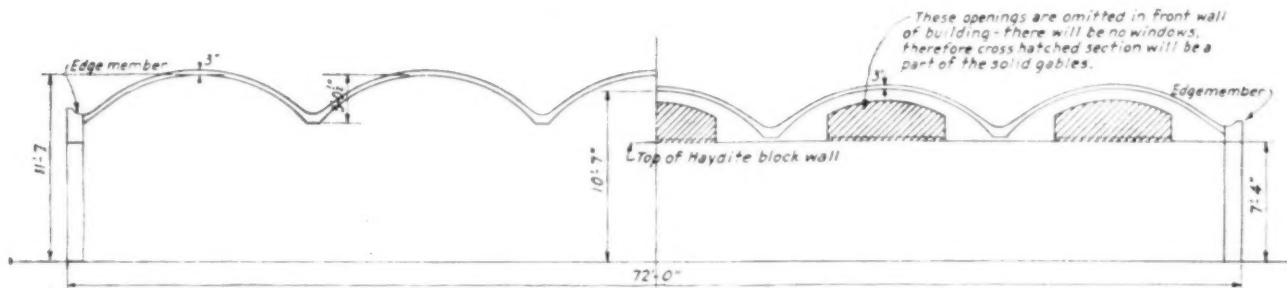
Wide World

WORLD'S LARGEST DOOR (below): In the August issue (page 71) there appeared a photograph of a door measuring 9 by 35 feet and captioned as the "world's largest." A. T. Hugg of the Detroit Steel Products Company sends The Record another claimant for this honor—the hangar door in the Denver Airport which measures 150 feet wide by 22 feet high and weighs approximately 16½ tons "as compared with the 10-ton midget which you show."





For the first time in this country the Zeiss-Dywidag System of shell roof construction is used on a farm building. Brook Hill Farm of Genesee Depot, Wisconsin, in cooperation with Starline, Inc., of Harvard, Ill., used this roof construction on the stable portion of the \$75,000 exhibition building at Chicago World's Fair. The system originated in Germany and is practical for roofing structures where a large area of unobstructed floor space is required. The barn has an over-all dimension of 36 by 72 feet. Walls are made of 8" x 12" x 16" Haydite concrete masonry units. Its roof consists of five double-curved barrels, each 14 by 34 feet. Stiffening diaphragms in the gables and edge beams transfer the roof load from the shell to the supporting walls. Steel reinforcement consisting of $\frac{1}{4}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " bars, was placed, 3 layers at ends and 2 in the center in accordance with stress requirements. Concrete was placed to a thickness of 3 inches. One day after placing, the concrete was sealed with a waterproofing material, and after curing for 4 days the forms were removed and the curved reinforced slab became self supporting. A coat of aluminum paint completed the roof. The underside was painted but may be left natural. Roberts and Schaefer, engineers, in cooperation with Starline, Inc., designed the barn section; Richard Philipp was the architect.



DEVICE TO STUDY POROUS MATERIALS HELPS AIR CONDITIONING

Small quantities of air, on the order of the amount that passes through the walls of a cigarette while it is being smoked, can now be measured with great accuracy, according to a Science Service report. Of particular use in air conditioning of houses, a small machine has been invented that can determine in a very short time if a sheathing paper meets requirements as to the amount of air that can leak in or out through it.

S. T. Carson of the National Bureau of Standards, who developed the instrument, has found that it has a range about a thousand times greater than most similar devices for measuring permeability. It can be used on leather and insulating materials as well as such thin membranes as a cigarette paper.

Paper sheathing, air-tight food wrappers, grease absorbers, and the insulation for electric cables can all be studied and their true value found. Since air permeability is related to liquid absorption the efficiency of roofing materials and the rate of drying of ink on printing paper can also be measured accurately.

HISTORIC BUILDINGS SURVEY BECOMES A PERMANENT BODY

The Historic American Buildings Survey has been reorganized as a permanent institution functioning through the National Park Service, the Library of Congress, and the American Institute of Architects. An agreement to coordinate all future work of recording historic structures has just been concluded by these three organizations, according to an announcement by the Institute's Committee on Public Information.

The drawings already made by the Survey are now being transferred from the Park Service to the Library of Congress, which will soon have copies ready for public distribution. Dr. Leicester B. Holland, Chief of the Library's Division of

Fine Arts, said. Many requests have been received for prints from libraries, historical and other organizations. Sometimes the prints wanted are those of a single building, but more often a whole district is desired.

Of 2,315 projects indexed, 888 have been completed and 196 are partially finished. The number of drawings aggregates 5,739, and of photographs 3,474. About 700 historic notes have been made.

It is the purpose of the Survey to study, measure, and draw up the plans, elevations, and details of the important antique buildings of the United States.

SCRANTON AIR POLLUTION SURVEY

The consideration of mixtures of solid fuels, as another means of easily and economically reducing black smoke from rail, utility, industrial and domestic sources, is expected to follow in the wake of a report of a survey made at Scranton, Pa., by H. B. Meller and L. B. Sisson, air pollution specialists of Mellon Institute of Industrial Research. The findings in the Scranton report appear to be applicable wherever low-priced, small sizes of anthracite are available for mixture with the higher volatile (potentially smoke-making) bituminous coal. This availability is said to obtain over practically all of the Eastern seaboard and much of the Great Lakes areas.

In reporting on observations made on one major railroad system, where mixtures of small-size anthracite and bituminous coal had been employed in exactly for some years, it was found that satisfactory performance had been secured only recently, and then only where the mixing process was complete—mechanically done.

In the case of one large fuel consumer reported on, where the mixing process is most skillfully looked after, the saving in fuel cost averaged about \$33,000 a month.

In applying the suggested mixture of coals to a community, it would be neces-

sary first to ascertain the volatile contents of the various logically available fuels and then to use them in such proportions as would bring the volatile content of the composition down to about 20 per cent, or less.

The Mellon Institute report is considered valuable to the Federal Housing Administration and to other Housing Authorities in that it points to another economical and ready method of reducing smoke in some eastern areas—especially so-called slum or blighted city areas—where objectionable air pollution would seriously affect the life and maintenance of constructional materials, damage vegetation, and injure human health, thereby prejudicing buyers or tenants against a district as a commercial or residential site.

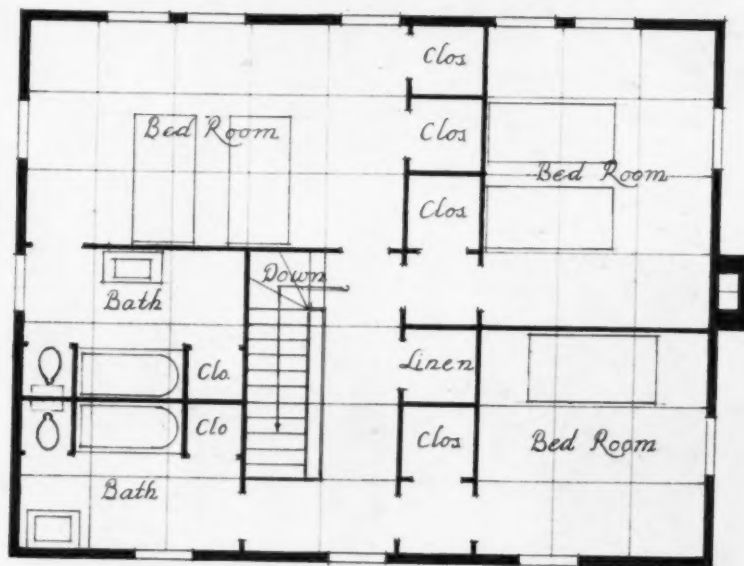
A.I.A. ADVOCATES COORDINATION OF SIZES OF BUILDING MATERIALS

Economies in the construction of buildings erected by tax-supported agencies can be effected by coordinating the sizes of building materials, the American Institute of Architects declares in endorsing the movement for uniform sizes fostered by the National Bureau of Standards.

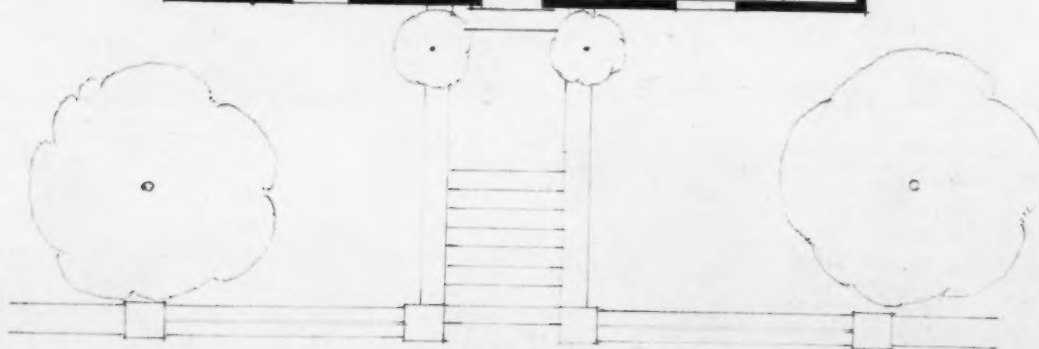
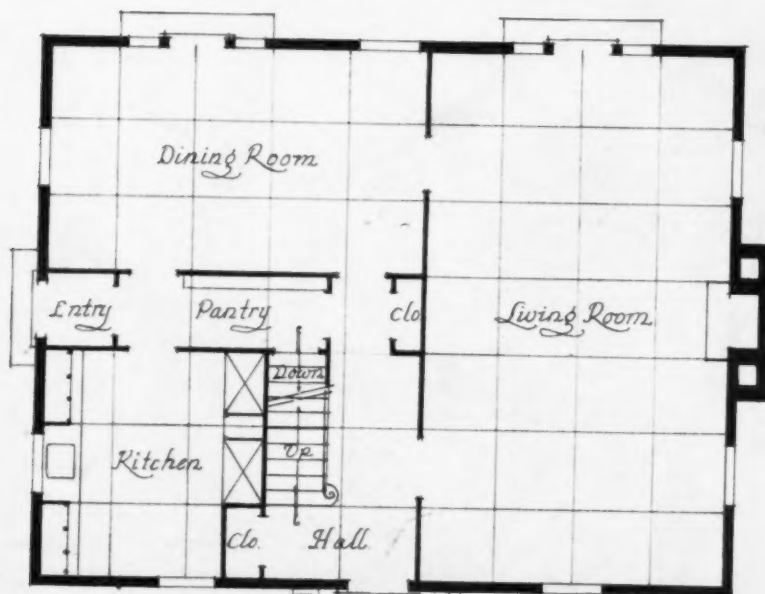
The Institute points out that the development of such standards should not exclude or discourage the manufacture of odd sized brick for special purposes or aesthetic reasons.

"It is the intention of the coordination movement to confine activities to units for use in structures where economy in materials and labor are deciding factors, such as Federal, State, and local government buildings, commercial structures, industrial buildings, mass production projects, and low-cost housing," it is explained.

"For these reasons there is nothing in the proposed project that should be objectionable to architects on the basis of being contrary to their desires for freedom in design. The minor adjustments in sizes of units will be negligible and should have the desirable effect of simplifying matters for the designer."



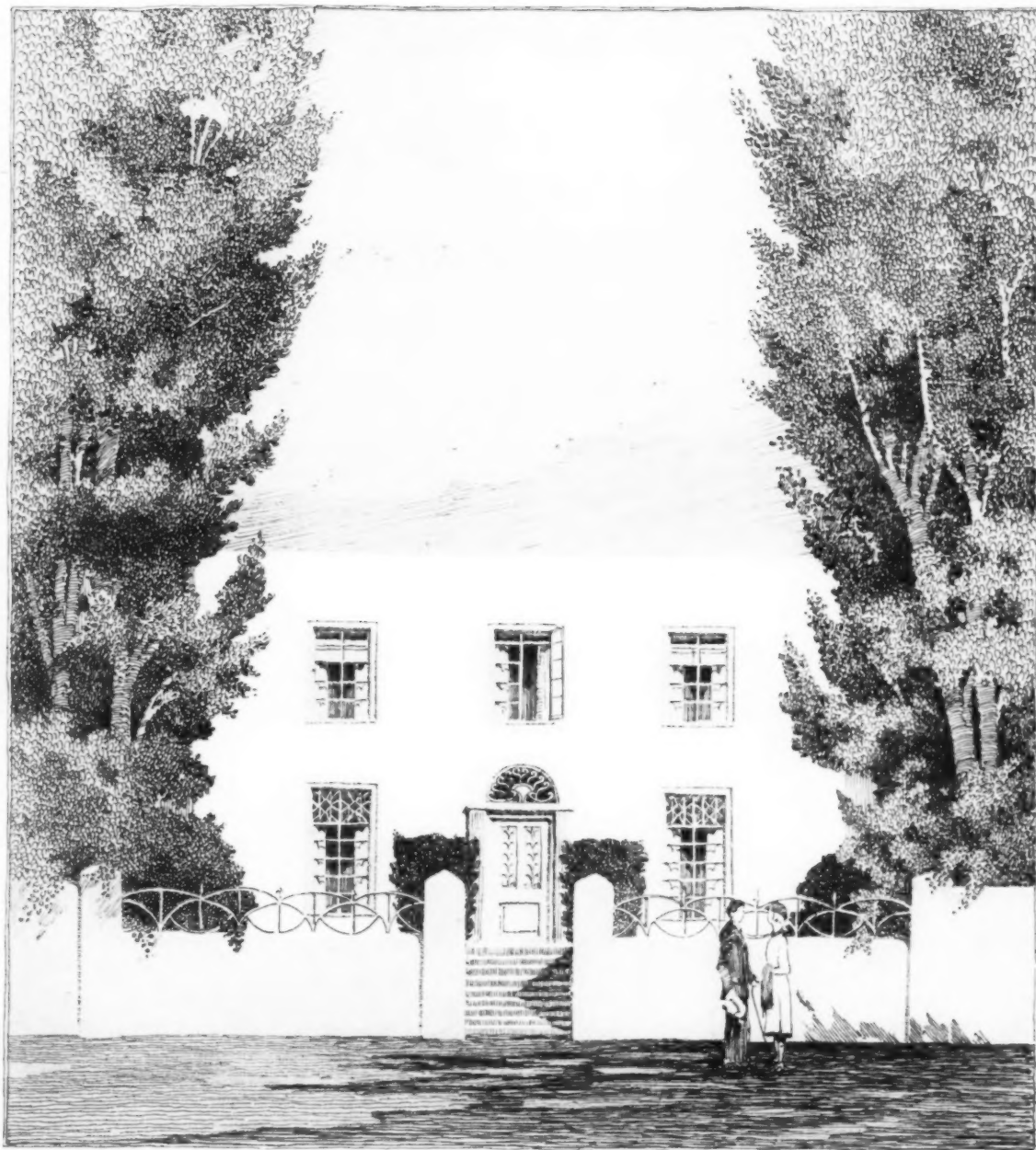
* SECOND FLOOR PLAN *



* FIRST FLOOR PLAN *

©
~1933~
~ H. J. Lindeberg Architect ~

0 4 8 12
Graphic Scale



~ A SUBURBAN HOUSE ~

©

~1933~

H. J. Lindeberg Architect

Daniel Steilinger Del.

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OCTOBER

T H E

ARCHITECTURAL RECORD

There is now in the making one of the largest housing shortages in our history. Building figures for the last four years, compared with population increases and with property losses by fire and depreciation, permit of no doubt on that score. Revival of private house building was conditioned on (1) arresting the decline in private house values and (2) liquefying the assets of the lending institutions which invest in home mortgages. These conditions have now been met by the Home Owners' Loan Corporation and the Federal Home Loan Bank System. The fear that home values would be governed by foreclosure prices rather than by normal economic factors has been removed and private capital is available for private house construction. In Mr. Fahey's words: "I have no doubt that the ring of the hammer and the saw throughout the land will be heard more loudly by the early part of 1935 than at any time in the past six years."

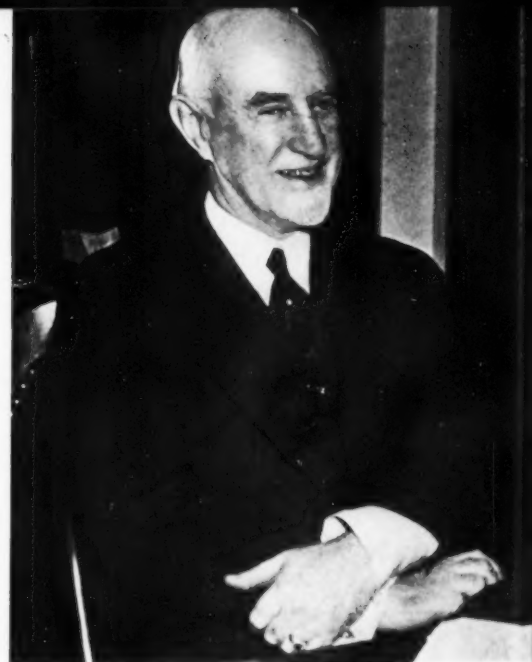
THE RESUMPTION OF HOME BUILDING

By **JOHN H. FAHEY**, Chairman, Federal Home Loan Bank Board

THE failure of the home-building industry to function properly, whether through overactivity or underactivity, is always disastrous. Overbuilding in the middle years of the last decade paved the way for deflation and depression. Inactivity in building now hampers complete economic recovery. The public has turned to the Federal Government as the only agency capable of reviving activity in the industry. However, more is demanded of Governmental leadership than immediate resumption of construction. It must seek ways to make these periodic failures impossible. Its task is one of careful reform as well as recovery and its achievements, if they are to be permanent, must develop slowly.

As credit is the throttle of the home-building industry, the Government's program centers around the organization of the nation's home-financing system and home-mortgage market. In the Spring months of 1933 the home-financing system was drifting toward complete collapse. With mortgage foreclosures attaining nearly 26,000 in June, 1933, the highest of any month on record and to be compared to a monthly normal of approximately 6,000, the pressure on the credit structure and on home-financing institutions was terrific. The value of real estate underlying mortgages was being steadily undermined. Demand had practically disappeared. The Government's first responsibility, there-

JOHN H. FAHEY was born in Manchester, New Hampshire in 1873. Soon after graduation from high school he became a reporter on the Manchester Mirror which he later purchased, becoming its editor and publisher. Subsequently he took up press association activities and became New England superintendent of the Associated Press. From 1903 to 1910 he was publisher and principal owner of the Boston Traveler. During this time he also acted as chairman of the national committee which revised the by-laws of the Associated Press, and recommended various reorganization plans. After disposing of the Boston Traveler he devoted his attention for the next 15 years to the firm of John H. Fahey and Co., engaged in the investment securities business, with headquarters in Boston. During this period he was interested in various business and financial enterprises, purchasing the Worcester (Mass.) Evening Post in 1914 and the Manchester (N. H.) Mirror in 1922. He was president of the St. John's River Shipyard Co., in Jacksonville, Fla., 1917-1920, publisher of the New York Evening Post in 1923, and president of the Clarke Press in Manchester, N. H., in which he has continued his interest. He is president and principal owner of the Worcester Evening Post. He was appointed a member of the Board of the Federal Home Loan Bank by President Roosevelt in June, 1933, and is also a member of the Board of Directors of the Federal Home Owners' Loan Corporation. Mr. Fahey has been keenly interested in civic and public affairs, serving in many capacities in connection with the work of business organizations of the country.



Keystone View

fore, was to end the downward spiral and forestall disaster to our entire credit structure.

It undertook to do this by setting up the Home Owners' Loan Corporation to refinance mortgages and relieve distressed mortgagees. By September 1, 1934, the Corporation had refinanced 492,648 home mortgages, aggregating \$1,476,900,000 and had in excess of 500,000 additional in process of refinancing. The action of the Corporation in thus protecting the market from being flooded with these distressed properties has arrested the downward spiral and saved existing home values. It has taken the pressure off home-financing institutions. Over \$200,000,000 of the Corporation's funds have gone directly to closed institutions to release their frozen assets. More than 90 per cent of the vast sum already disbursed by the Corporation has been distributed to home-financing institutions. In these ways the Corporation has helped to preserve the home-financing structure. Its success was vital to the resumption of home building. Without it, institutions would have had no funds with which to finance new construction. Until it arrested the fall in values there could be no new building, for no one is going to put money in a new home if it is sure to be worth less than the cost of construction or if he can buy the neighboring property for half what the new home would cost him.

The permanent organization of the home-financing system has gone forward steadily while the Home Owners' Loan Corporation was halting the deflation. That organization began with the passage of the Federal Home Loan Bank Act in July, 1932. The Federal Home Loan Banks constitute a reserve system for the nation's principal home-financing institutions, namely, building and loan associations, savings banks, and life insurance companies. The estimated total urban home-mortgage debt in 1932 (the latest year for which figures exist) was \$21,000,000,000. Of this amount the three classes of institutions eligible to membership in the Federal Home Loan Bank System held approximately \$12,000,000,000. The System seeks to pool the resources of these institutions into a national reservoir against which member institutions can draw to meet any emergency.

By September of this year the System had 2,805 members with assets of \$3,109,000,000. These member institutions had a potential line of credit with the Federal Home Loan Banks of \$237,600,000, of which they were using at the end of July, only \$85,587,000. It is evident, therefore, that the System has provided some 3,000 home-financing institutions with a substantial reserve which protects them against fear of emergency pressure and from which they may borrow to make new loans should their own resources be inadequate to meet the demand. The number of institutions eligible for membership in the Federal Home Loan Bank System is probably double the number already in. Undoubtedly there are many which cannot qualify but for the protection of savers and investors every institution which can should be a member of the System.

The Federal Home Loan Bank System constitutes one form of protection to existing home-financing institutions; the Federal Savings and Loan Insurance Corporation constitutes another. This Corporation, which the National Housing Act of June 27, 1934, authorized the Federal Home Loan Bank Board to set up, *must* insure accounts of Federal Savings and Loan Associations and *may* insure those of eligible building and loan associations, to the extent of \$5,000 for each shareholder. The primary purpose of this insurance is to prevent the withdrawal of savings from thrift home-financing institutions and to increase the flow of funds to them for home financing.

The framing of rules and regulations was completed in August and the examination and insurance of Federal Savings and Loan Associations got under way in September. Applications for insurance from building and loan associations are now being handled. The flow of savings to banks since the establishment of the Federal Deposit Insurance Corporation makes it certain that the Federal Savings and Loan Insurance Corporation will greatly increase the loanable funds of thrift home-financing institutions.

However the Government's program stimulates by even more direct means the increase of credit for home financing. This is accomplished by the establishment of Federal Savings and Loan Associations, which are

local, mutual, thrift home-financing institutions modeled on the best features of mutual savings banks and building and loan associations. They are privately managed under Federal charter and subject to regular Federal examination. They may be new institutions or existing building and loan associations converted from state-chartered institutions. To encourage their organization, the Federal Treasury is permitted to subscribe up to 75 per cent of the total paid-in capital of any Association. Congress appropriated \$100,000,000 to be used for this purpose. Through these Associations the Government is able to make its own credit available for home financing and home construction with the maximum of safety to itself. The Government has sought to establish them in every community where credit for home financing is either lacking, frozen, or inadequate. Up to September 1 charters had been issued to 406 new associations and to 92 associations converted from state institutions. At that time charters were pending for 220 new associations and for 173 converting associations. The resources of the 498 chartered associations totalled \$75,321,616; the resources of the 393 for which charters were pending totaled \$212,944,400.

The \$100,000,000 of Federal investment in these thrift home-financing institutions seems likely to constitute but a fraction of the increased funds which they will make available for home-financing. A Kentucky building and loan association operating under State charter some months ago converted into a Federal Association. The institution has assets of approximately \$6,000,000. After it became a Federal Association, its receipts from investments in its shares increased nearly \$100,000 a month over the previous rate.

The remainder of the Government's program for the permanent organization of the home-financing system is being carried out by the National Housing Administration. However, the sections of the program listed above and already in part accomplished have been sufficient to make funds available for home financing in many, if not all, sections of the country. The Federal Home Loan Bank Board knows from the reports of its regional banks and from other sources that home-financing institutions have money to lend or have credit with the Federal Home Loan Banks to obtain money for lending should they wish to do so. It is evident, however, that in many sections of the country mortgage money is not being offered as liberally as the situation warrants. To make credit available for home financing is one problem; to insure its use seems to be quite another.

THE nation needs new housing. There is now in the making one of the largest housing shortages in our history. Building figures for the last four years compared with population increases and with property losses by fire and depreciation permit of no doubt on that score. If credit is available and homes are needed, why are not more of them being built? Lack of public confidence is undoubtedly one factor. Confidence will increase as employment increases and credit is liberalized. That is why the success of the present home reconditioning effort of the National Housing Administration is so important. As it puts men to work, this effort will increase the number of those financially able to

invest in new or better homes and spread great confidence among those who, though financially able to buy or build, are now hesitant.

Another principal obstacle to the resumption of home financing and consequently of home building is unquestionably the difficulty of adjustment to the general withdrawal of second-mortgage financing. The depression put the second-mortgage structure practically out of business and the Government hopes to prevent its return. It was a costly, inefficient and dangerous incubus on home ownership. The Government seeks to eliminate the need for the second mortgage by encouraging the making of first mortgages up to 75 and 80 per cent of the soundly appraised value of the property. To the extent that this succeeds, it means also the elimination of the short-term straight mortgage and the use of the long-term amortized mortgage, which is repaid over a period of seven to twenty years by monthly installments of principal and interest.

The long-term amortized mortgage is the cornerstone of the Government's program for organizing the home-financing system. Hitherto it has been made almost exclusively by the building and loan associations, and their total home-mortgage holdings of \$6,500,000,000 (in 1932) constitute approximately the total of the country's long-term amortized mortgages that are privately held. To this must be added the nearly \$3,000,000,000 of fifteen-year amortized mortgages eventually to be held by the Home Owners' Loan Corporation.

The fact that they made long-term amortized mortgages does not mean that building and loan associations habitually or even frequently loaned up to as much as 75 per cent of the appraised value of the property on a first mortgage. In some States they were prohibited by law from lending more than 66 per cent, and generally they were influenced by the prevailing practice of restricting first mortgages to 50 or at the most 60 per cent of property value. To induce building and loan associations to make larger first mortgages so that the need for the second mortgage can be largely eliminated will require time and education.

Federal Savings and Loan Associations are authorized to lend up to 75 per cent on a first mortgage, and it is believed that they can be encouraged to make such loans extensively. A major purpose of the Mutual Mortgage Insurance Fund, which is being set up by the National Housing Administration, is to give protection to and thus encourage investments in 80 per cent long-term amortized first mortgages.

Reform takes time and the transfer of most home financing from the old basis of short-term, straight-maturity first mortgages, representing only 50 or 60 per cent of property value, to the sounder basis of long-term amortized first mortgages up to 70 or 80 per cent of value, constitutes a major reform in home financing. While it is in process, thousands of homes will be built under the older methods of financing. In any event, private capital is available for the purpose. Today it is lying idle, unproductive and unprofitable. As confidence continues to return and loaning policies become more liberal, that credit will move eagerly to work in one form of home-loan finance or another. I have no doubt that the ring of the hammer and the saw throughout the land will be heard more loudly by the early part of 1935 than at any time in the past six years.

ADMINISTRATORS of the BETTER HOUSING PROGRAM

Announcement was made on August 13 of the appointment of Regional, State and District Directors for the Better Housing Division of the National Emergency Council, which is to be the immediate field agency of the Federal Housing Administration. Appointments were made by Donald R. Richberg, Executive Director of the National Emergency Council. Concurrence in the appointments was given by James A. Moffett, Federal Housing Administrator.

In order to expedite the organization of a field personnel able to direct and energize the modernization part of the Better Housing program under Title I of the National Housing Act the Federal Housing Administration elected to use the facilities of the National Emergency Council. Insofar as possible the Better Housing Division is headed by the present State Directors of the National Emergency Council. In States where this particular plan was not feasible special personnel has been added to the National Emergency Council offices temporarily to concentrate their efforts on the Better Housing Program. In all cases the heads of the movement will be known as Directors, either Regional, State or District, of the Better Housing Division of the National Emergency Council.

For purposes of administration the country is divided into 10 regions. In 42 States the administration of the program is placed in the hands of State Directors. In 6 States, because of unusual conditions, it was necessary to organize District offices.

REGION ONE: New York.

REGIONAL DIRECTOR: Julian Gerard, New York City.

Director for Albany District: Roy S. Smith.

Director for Buffalo District: Raymond E. Winfield, Buffalo.

Director for New York City District: Gates Ferguson.

REGION TWO: Connecticut, Maine, Massachusetts, Rhode Island, New Hampshire and Vermont.

REGIONAL DIRECTOR: Charles Birmingham, Boston.

State Director for Connecticut: William Meany, Greenwich, Conn.

State Director for Maine: George M. Williamson.

State Director for Massachusetts: John F. Malley, Boston.

State Director for Rhode Island: LeRoy King, Newport.

State Director for New Hampshire: Eugene E. Reed, Concord.

State Director for Vermont: Dr. J. Holmes Jackson, Burlington.

REGION THREE: Delaware, Maryland, New Jersey and Pennsylvania.

REGIONAL DIRECTOR: Charles Edison, West Orange.

State Director for Delaware: Willard Springer, Jr., Wilmington.

State Director for Maryland: Arthur E. Hungerford, Baltimore.

State Director for New Jersey: Charles Edison, West Orange.

State Director for Pennsylvania: Edward N. Jones, Pittsburgh.

Western District Director for Pennsylvania: Edward Brown Lee.

Eastern District Director for Pennsylvania: Edward Paul Simon.

REGION FOUR: Florida, Georgia, North Carolina, South Carolina and Virginia.

REGIONAL DIRECTOR: John W. Millsaps, Atlanta.

State Director for Florida: Fons A. Hathaway, Jacksonville.

State Director for Georgia: William A. Sirmon, Atlanta.

State Director for North Carolina: Theodore B. Sumner, Asheville.

State Director for South Carolina: Lawrence M. Pinckney, Charleston.

State Director for Virginia: D. R. Hunt, Roanoke.

REGION FIVE: Alabama, Arkansas, Louisiana, Mississippi and Tennessee.

REGIONAL DIRECTOR: Hugh Humphreys, Memphis.

State Director for Alabama: Robert Jemison, Jr., Birmingham.

State Director for Arkansas: J. J. Harrison, Little Rock.

State Director for Louisiana: C. M. Dickson, Shreveport.

State Director for Mississippi: W. P. Bridges, Jackson.

State Director for Tennessee: Roy H. McKay, Memphis.

REGION SIX: Ohio, Michigan and West Virginia.

REGIONAL DIRECTOR: Benedict Crowell, Cleveland.

Northern District Director for Ohio: E. H. Blair, Cleveland.

Southern District Director for Ohio: Albert L. Guckert, Granville.

State Director for Michigan: George J. Burke, Ann Arbor.

State Director for West Virginia: F. Witcher McCullough, Huntington.

REGION SEVEN: Indiana, Illinois, Kentucky and Wisconsin.

REGIONAL DIRECTOR: Percy Wilson, Chicago.
Northern District Director for Illinois: Carroll Sudler, Chicago.
Southern District Director for Illinois: C. E. Hamilton, Carbondale.
State Director for Indiana: Fred Hoke, Indianapolis.
State Director for Wisconsin: A. Matt Werner, Sheboygan.
State Director for Kentucky: Judge J. R. Layman, Elizabethtown.

REGION EIGHT: Colorado, Kansas, Missouri, New Mexico, Oklahoma, Texas and Wyoming.

REGIONAL DIRECTOR: Walter Dearing Cline, Wichita Falls.
State Director for Colorado: Thomas A. Duke, Pueblo.
State Director for Kansas: Homer Bastian, Atwood.
State Director for Missouri: Paul Kendall, Kansas City.
State Director for New Mexico: J. J. Dempsey, Santa Fe.
State Director for Oklahoma: Frank Buttram, Oklahoma City.
Eastern District Director for Texas: Mabry Seay, Dallas.
Southern District Director for Texas: H. P. Drought, San Antonio.
Western District Director for Texas: Robert Stuart, Fort Worth.
State Director for Wyoming: Nels A. Pearson, Sheridan.

REGION NINE: Minnesota, Montana, North Dakota, South Dakota, Nebraska, Iowa.

REGIONAL DIRECTOR: Guy H. Harvey, Yankton.
State Director for Minnesota: Mrs. Anna Dickie Olsen, Minneapolis.
Associate Director for Minnesota: Fred Schilplin, St. Cloud.
State Director for Montana: Miles Romney, Hamilton.
State Director for North Dakota: Robert B. Cummins, Mandan.
State Director for South Dakota: Mr. Goss.
State Director for Nebraska: Richard L. Metcalfe, Omaha.
State Director for Iowa: John J. Hughes, Des Moines.

REGION TEN: Arizona, California, Idaho, Nevada, Oregon, Utah and Washington.

REGIONAL DIRECTOR: Allen B. Swinerton, San Francisco.
State Director for Arizona: Steve A. Spear, Prescott.
Northern District Director for California: Califford C. Anglin, Richmond.
Southern District Director for California: Fred W. Marlow, Los Angeles.
State Director for Idaho: Harry Whittier, Boise.
State Director for Nevada: Frank Ingram, Reno.
State Director for Oregon: Edgar Freed, Portland.
State Director for Utah: Allen T. Sanford, Salt Lake City.
State Director for Washington: J. E. Bradford, Seattle.



Keystone Views

JAMES A. MOFFETT, Federal Housing Administrator, former vice-president of Standard Oil Company of New Jersey.

APPPOINTMENT by the American Bankers Association, and by various groups of manufacturers, of liaison officers in every state and region to cooperate with the Federal Housing Administration in its Better Housing Program has been followed by additional similar appointments of volunteer assistants in all parts of the country. The work of these volunteers will be to cooperate with the State and Regional Directors of the Better Housing Program, already named by the National Emergency Council. They will assist the directors in supplying to all private financial and business agencies in their territories complete information regarding the Better Housing Program.

BECAUSE of the large number of property owners whose mortgage or tax payments to some extent are not up to date but who still are able to maintain their properties, the Federal Housing Administration has announced a major modification of its regulations permitting such owners to apply for modernization credits. Under the revised rules, any financial institution may use its own judgment as to whether the status of taxes should affect the approval of a loan. Also, any institution which does not itself hold the mortgage may use its own discretion as to whether or not it will make a loan even though the mortgage may not be completely "in good standing." In making this announcement, James A. Moffett, Federal Housing Administrator, stated that banks in many states had reported that they were willing to make loans because they were certain property owners would repay out of their incomes in spite of the fact that some delinquencies had not yet been made up in connection with the principal or interest payments on mortgages.

BUILDERS' "FLOOR COSTS" REDUCED TO AID HOUSING

A DROP averaging 7 per cent in overhead sales and delivery cost on less-than-carload shipments of builders' supply materials has been authorized through an administrative order by the National Recovery Administrator. The order was requested by the Code Authority for the trade to aid the home-building and home-modernization program, according to an announcement in the September 4 issue of *The Blue Eagle*.

This drop in costs was brought about by application of the Code Authority to modify former administration approved figures and percentages which constituted the minimum overhead cost of selling and delivering builders' supplies in less-than-carload quantities. This was done by eliminating items of interest

and lost accounts (excepting a reserve for lost accounts of 1 per cent), and establishing specific modal percentage charges.

Materials affected by the order are the following:

Brick mortars, casement and steel sash, cement and cement products, cement pipe, ceramic tile, clay roof tile, common brick, cut stone, dampers and fireplace accessories, drain tile, face brick, fire brick and clay, glazed structural tile, gypsum products, hollow tile, lime and lime products, mesh reinforcement, metal lath and kindred products, mineral aggregates, mortar and cement colors, molding plasters, roof and flooring slates, sewer pipe, flue lining and other clay products, structural terra cotta and waterproofing compounds.

MODERNIZATION CREDIT PLAN: BULLETIN NO. 2

THE Modernization Credit Plan of the Federal Housing Administration was opened August 31 to active participation on the part of savings banks; savings, building and loan associations; insurance companies and similar institutions required by law to loan only against mortgage security. Thus, mortgage institutions particularly accustomed to extend credit in the real estate and building field are invited to participate, along with national and state banks, industrial banks and finance companies, in a plan described by the Federal Housing Administration as "unique in the mortgage field."

James A. Moffett, Federal Housing Administrator, announced that Modernization Credit notes may be extended up to as long as three years and in exceptional cases, in the discretion of the mortgage institution, as long as five years. This discretionary authority to extend the term beyond three years was granted, he explained, primarily to make possible full participation by the mortgage type of institution. Some of these, it was stated, could not operate effectively on the shorter term basis. Institutions making unsecured loans likewise were given the option of taking five-year notes, although the opinion was expressed that this extension would not be largely availed of in such cases. This does not mean, however, that every property owner needs the maximum time permitted. It is to his advantage, and to the advantage of the financial institution, that the loan should be paid off as rapidly as possible, giving due consideration to the amount he can comfortably pay each month.

It further was stated that all financial institutions might take mortgage security in view of the opening of the plan to so-called mortgage institutions, although it is intended that credit shall be extended by all institutions as nearly on an unsecured basis as state laws make possible.

"The mortgage is relegated from its place as principal security," according to the outline of the plan in

Bulletin No. 2, "to one of security in legal form only, so as to permit mortgage institutions to proceed as if these loans were unsecured, and yet meet the requirements of the laws in their states.

"The mortgage institutions," the statement continued, "would be more interested, under this plan, in the property-owner's income than in his property."

This Bulletin outlines such modifications of the plan described in Bulletin No. 1 (issued primarily for commercial and industrial banks, finance companies and similar financial institutions) as are necessary to enable institutions required by law to loan only against mortgage security ("mortgage institutions") to extend credit under the Modernization Credit Plan in a manner as nearly as possible in conformity with their accustomed practices.

The Modernization Credit Plan relies primarily on personal character and earning power to release credit so that property-owners may enjoy housing improvements now and pay for them in small monthly installments.

Reasonable costs, easily met requirements, and favorable terms for the financing, all are obtained under the plan described in Bulletin No. 1. The modification herewith of the basic idea enables mortgage institutions to extend credit in a manner as nearly as possible like that provided for financial institutions permitted by law to make unsecured loans.

The Modernization Credit Plan invites an adjustment of customary practice on the part of both types of institutions. Commercial banks generally have dealt in thirty to ninety-day self-liquidating loans; they are now assisting property owners with longer term credit. Mortgage institutions generally have been accustomed to obligations running for many years; but they also are logical institutions to provide credit on less extended terms to property owners with whose interests they are so closely identified.



Harris & Ewing

AT WORK ON FEDERAL HOUSING ADMINISTRATION PROGRAM:

Here are four important persons who have been meeting in Washington, D. C., to work out a credit program for inducing the general public to buy materials and to modernize their homes.

From the left: W. K. Payne, Auburn, N. Y.; Albert L. Deane, Deputy Administrator, Federal Housing Administration; Roger Steffan, Director, Division of Modernization Credits, FHA; and H. E. Otte of Moline, Ill.

FHA FINANCING RATES

From the radio address by Albert L. Deane, Deputy Federal Housing Administrator, broadcast over a coast to coast network of the National Broadcasting Company on August 29:

The Federal Housing Administration has set a maximum financing charge beyond which no financial institution can go if the loan is to be insured. This charge not only covers interest for the use of the bank's money, but also the extra cost of handling loans that are paid off in monthly installments. . . . The maximum charge set by the Federal Housing Administration, covering all interest and other fees is \$5 for each \$100 of a one year installment loan—\$9.19 for each \$100 if it is repaid in two years—\$13.03 for each \$100 if it is repaid in three years.

Do not confuse this finance charge with straight interest on a bank loan. On a straight interest basis, the bank will receive under this plan a return on the money it loans you, at a rate slightly less than $9\frac{3}{4}\%$ per annum. This is a much lower charge on this type of loan than financial institutions have been able to grant heretofore. They are able to loan money at this low charge now, only because of the government's cooperation.

A bank that ordinarily loans money to its depositors for sixty or ninety days at, say 6% interest, will receive a much lower return on these installment loans, because of the extra cost of handling the large number of additional payments.

I have tried to make this matter clear because it has been reported to us that some property owners have confused the matter of the annual interest return to the bank with the maximum financing charge the property owner must pay. When they have been told that the maximum return to the bank was $9\frac{3}{4}\%$ they have thought that they had to pay \$9.75 to get a \$100 loan for one year, when actually the most they can pay is \$5 on such a loan.

THERE are 65 ways and reasons for the home owner to repair or improve his property, according to the *Home Owners' Manual* issued by the Federal Housing Administration and distributed to every city and town in the country as a part of its campaign to show the public how to take full advantage of the better housing movements. The 23-page booklet is entitled "How Owners of Homes and Business Property Can Secure the Benefit of the National Housing Act." It is being sent to bankers, State, District and Regional Directors of the Federal Housing Administration, to builders, contractors and private citizens.

PWA HOUSING DIVISION REPORTS PROGRESS

The PWA Housing Division has undergone a complete reorganization since June 13 when Robert D. Kohn resigned as Director after Administrator Harold L. Ickes, dissatisfied with the management of initial stages of the program, ordered a thorough investigation into all phases of Housing Division activities. The Division is now under the direction of Col. Horatio B. Hackett. Weaknesses in organization and procedure have been overcome and the program now is being pushed vigorously.

One limited dividend housing corporation project at Alta Vista, Va., has been completed, providing 50 modern homes for the small mill town.

Five other limited dividend projects, including the \$5,060,000 Hillside project and the \$3,450,000 Boulevard Gardens project, both of New York, are under construction. Another limited dividend project is ready to start construction, bringing this phase of the program up to seven projects, all in construction stages. The total cost of the seven projects will be \$11,471,600.

The Federal program, which will place Government-financed housing projects in many cities, is now in the most complicated, and of necessity the longest, stage—that of acquiring sites. Anywhere from four to 10 months is required to obtain title to the hundreds of land parcels going into a single low-cost housing site, if it is to be obtained at a reasonable cost.

\$127,564,500 is available for Federal housing projects. Projects for 74 cities are under examination. Sites for two projects in Atlanta have been purchased; bids for the demolition of existing slum buildings were received August 15; the two projects will cost \$4,800,000. Options have been taken and Federal condemnation proceedings have been filed on the site of a \$3,000,000 Cleveland project. Appraisals, title examinations, surveys, and options are well advanced on 10 additional sites in seven different cities.

Sites have been selected, preliminary social and economic surveys have been completed and the various steps of land acquisition started on 4 sites in four other cities. Initiation of projects has been started in 61 other cities.

A group of European experts in housing and municipal planning began a six weeks' tour of the country on August 20, under the auspices of the National Association of Housing officials, to study housing in the United States. The photograph shows the group examining an apartment house in New York. They are, from left to right: Henry Wright, New York architect; Sir Raymond Unwin of England, former president of the Royal Academy of Architects and England's foremost authority on city planning; Miss A. J. Samuel of the British Society of Women Housing Estate Managers; Dr. Ernst Kahn of Germany, former manager of the municipal housing program in Frankfurt, Germany; and Ernest J. Bohn of Cleveland, president of the National Association of Housing Officials and author of Ohio's current housing laws.



Keystone View

PORTFOLIO of NEW HOUSES



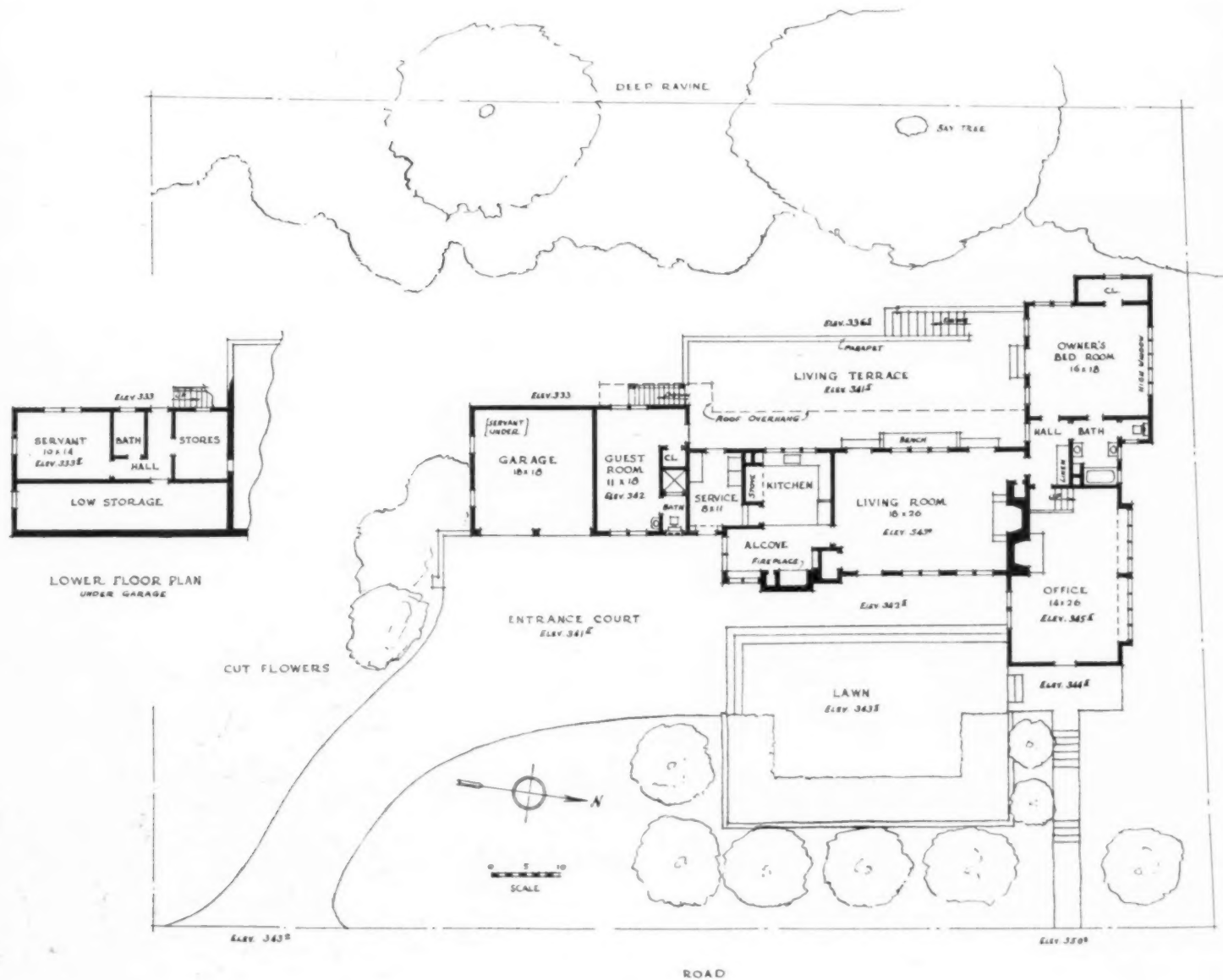
Photograph by Roger Sturtevant

HOUSE OF THOMAS D. CHURCH
PASATIEMPO ESTATES
SANTA CRUZ, CALIFORNIA
WILLIAM WILSON WURSTER, ARCHITECT



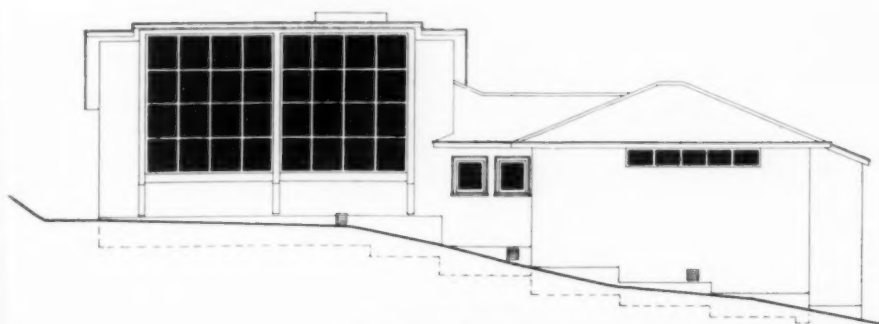
HOUSE OF THOMAS D. CHURCH
SANTA CRUZ, CALIFORNIA
WILLIAM WILSON WURSTER, ARCHITECT

This house is also used by Mr. Church as an office for the practice of his profession as a landscape architect. Contours and shape of lot made desirable the planning of the house in a north and south direction. Halls and dining room were eliminated for simple country living. Cost: \$8,500.





Roger Sturtevant



NORTH ELEVATION

Outside walls: resawed redwood, ship lap with flush joints, white-washed.

Roof: split redwood shakes, $\frac{1}{2}$ " to $\frac{3}{4}$ " thick, laid 10" to the weather and left untreated to be weathered a dark brown.

All outside trim, doors and windows painted white.



All walls and ceilings are of redwood boarding (in some rooms resawed), painted with white cold water paint to give the appearance of whitewash.

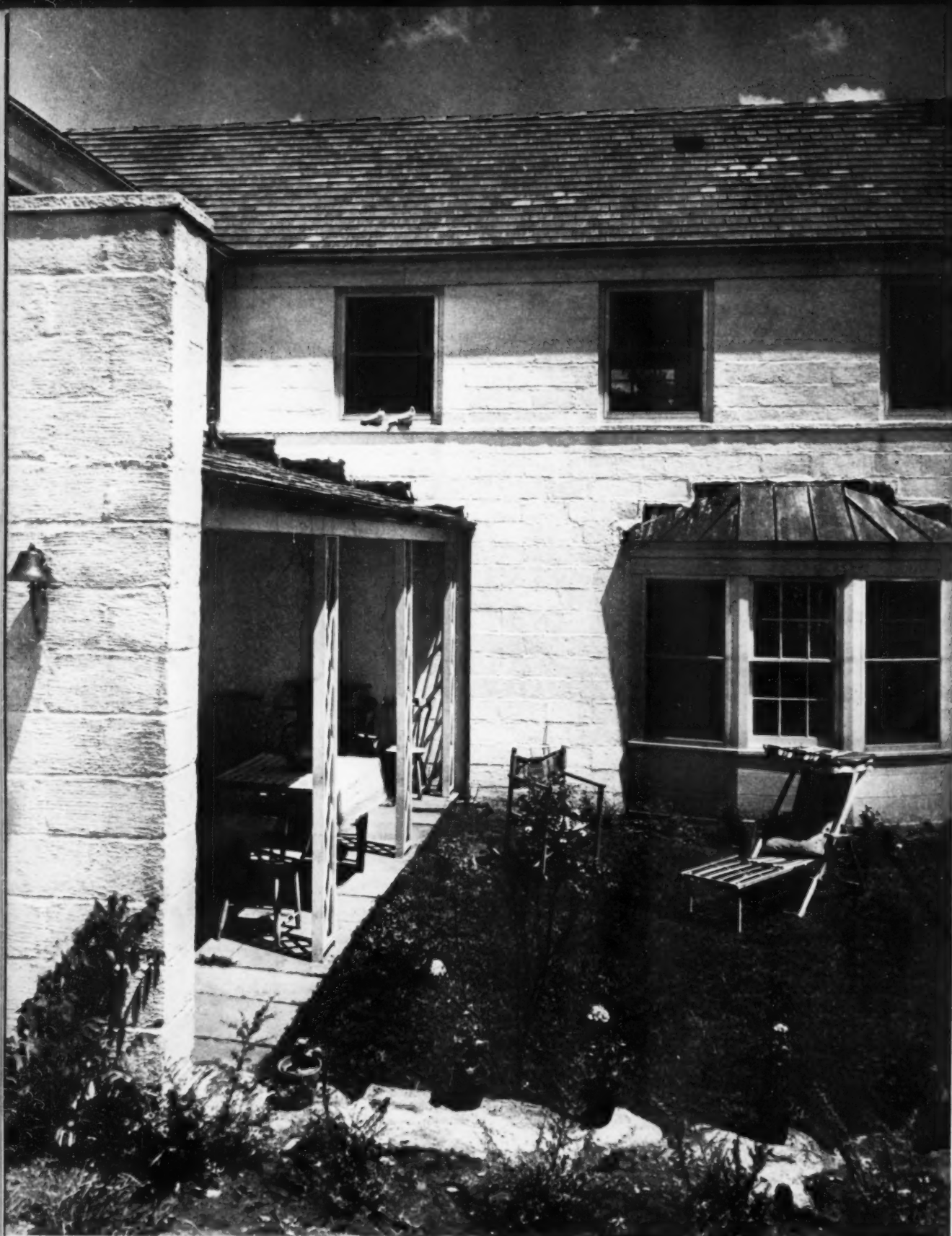
HOUSE OF THOMAS D. CHURCH
SANTA CRUZ, CALIFORNIA



Photographs by Roger Sturtevant

Kitchen floor has linoleum on wood in working portion and quarry tile for fireplace and alcove. All other floors are pine, stained a dark brown.

WILLIAM WILSON WURSTER
ARCHITECT



Photographs by George H. Van Anda

HOUSE AT WILTON, CONNECTICUT
EVANS, MOORE AND WOODBRIDGE, ARCHITECTS



Construction: exterior walls of cinder concrete with reinforced concrete slab on first floor. Plaster ceilings. Rock lath and plaster interior walls. Plank pine floors. White pine trim. Second floor ceiling insulated with rock wool.

Color scheme: exterior walls finished with white cement wash. Dark gray asbestos shingle roof. Interior walls largely papered, woodwork stained.

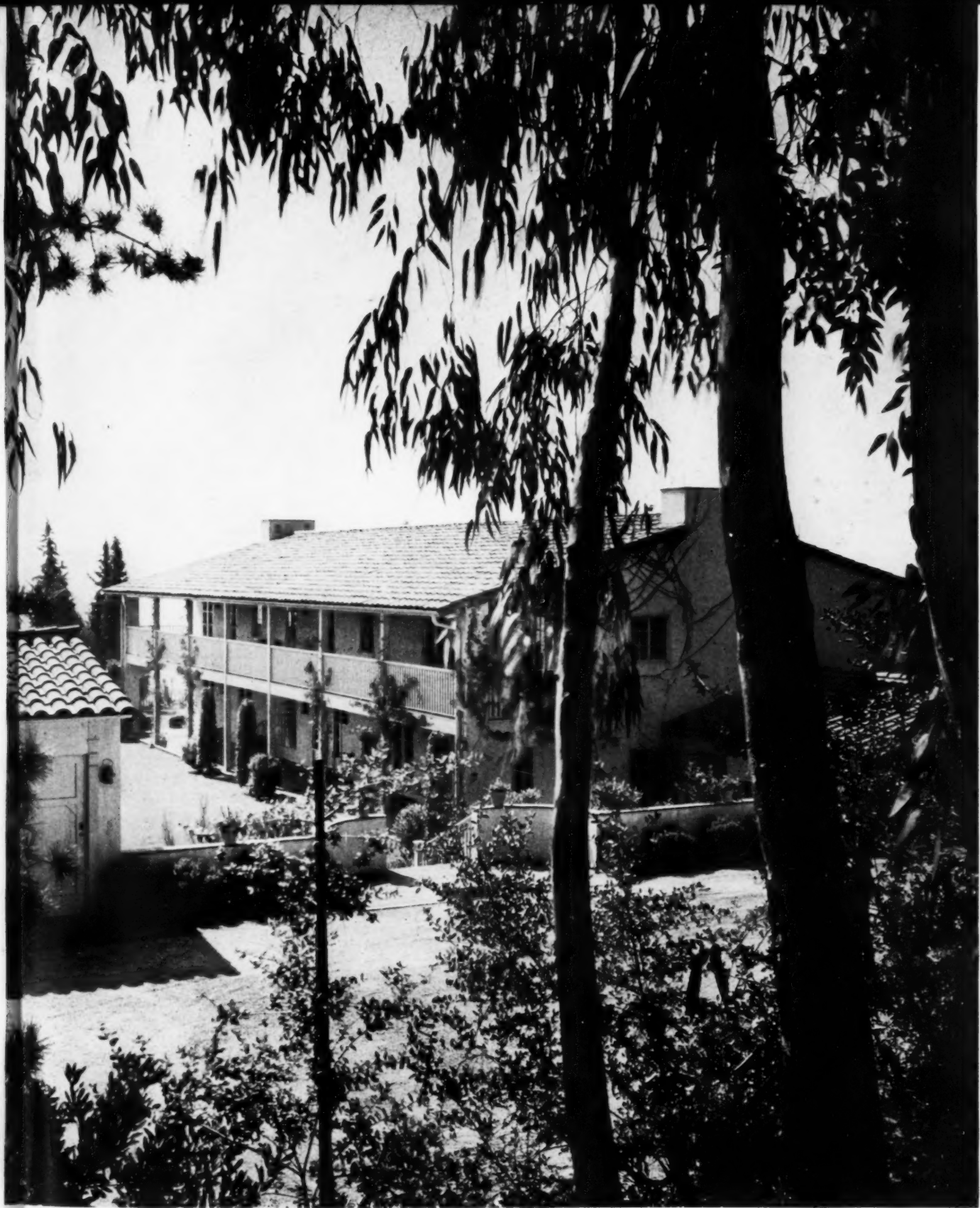
Cost: \$13,000.





HOUSE OF THOMAS N. ST. HILL
PASADENA, CALIFORNIA
DONALD D. McMURRAY, ARCHITECT

Construction consists of concrete foundations, wood studs and floor joists. Shingle roof. Color scheme: oyster white walls with gray stained roof.



Photographs by George D. Haight

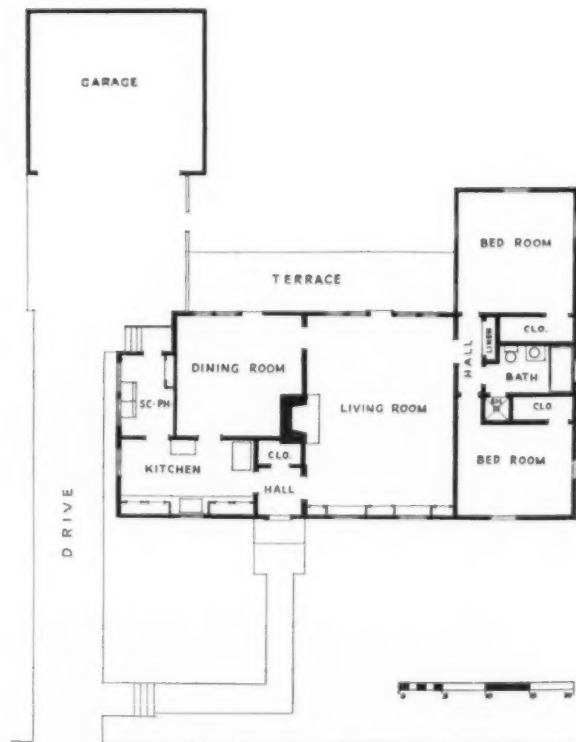
HOUSE OF CHARLES B. VORHIS
CALIFORNIA
DONALD D. McMURRAY, ARCHITECT

Exterior walls of stucco with metal sash. Wood trim interior and exterior and wood floors. Plastered walls and ceilings. Color scheme: light green exterior with red tile roof.



George D. Haight

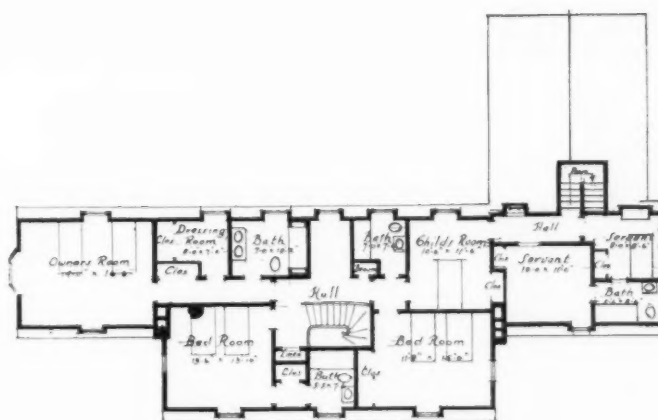
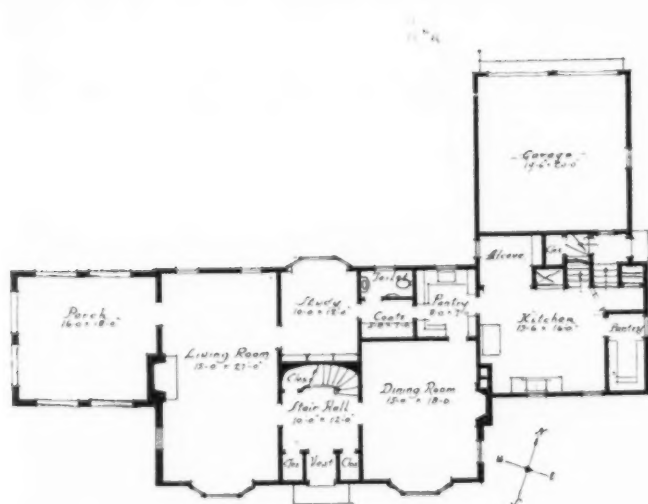
Construction consists of concrete foundations, wood studs and floor joists. Exterior walls of stucco with metal sash. Wood trim, interior and exterior. Wood floors. Plastered walls and ceilings. Color scheme: light green exterior walls with red tile roof. Heating: gas unit furnace individually controlled in all major rooms, with master switch located in living room and master bedroom. Cost: \$4 a square foot.



HOUSE OF CLARENCE E. GUSE
GLENDALE, CALIFORNIA
DONALD D. McMURRAY, ARCHITECT



George H. Van Ande



The site is a knoll about 300 feet back from the street. The house has clapboard frame walls with brick ends. Colors are white with maroon exterior doors and shutters. The roof has stained shingles, carefully insulated. Heating is vapor with cast-iron boiler and oil burner. House has 55,700 square feet and cost \$27,500.

HOUSE OF C. K. SKINNER
SOUTHPORT, CONNECTICUT
CAMERON CLARK, ARCHITECT

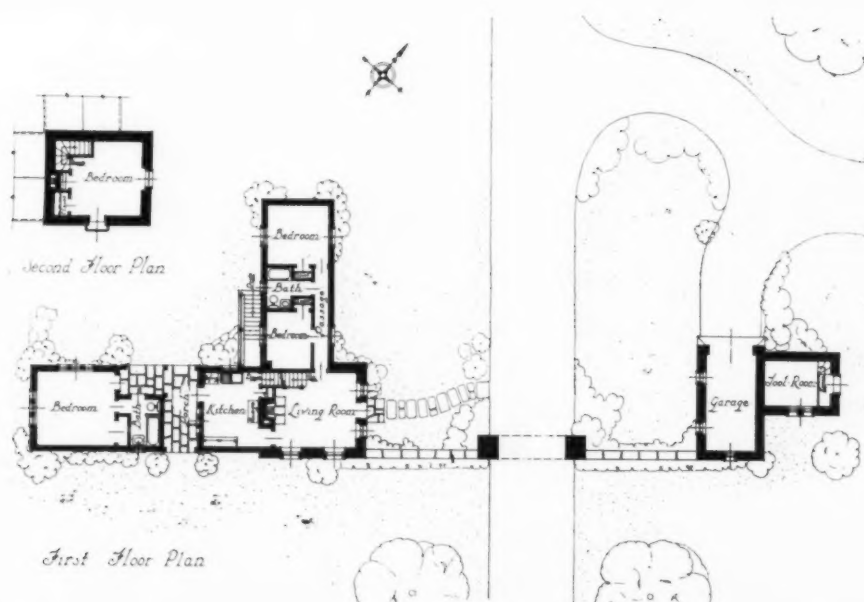


Photographs by Robert Maclean Glasgow

The house, inspired from the architecture of provincial France, is situated on a level lawn overlooking a small lake and sloping hills. All exterior walls are built of random field stone with the exception of the two wings leading off the central tower unit which are of common brick. All walls and chimneys are whitewashed. Large stones were used at all corners, also at all window and door openings. The cornice of the square tower is in courses of cut limestone and brick dentils.

Quarry tiles in shades of red and burgundy were used on all roofs. All exterior woodwork is oak, stained a weathered finish. The interior walls and woodwork are painted with simple cottage decorations.

GUEST HOUSE ON ESTATE OF J. M. KAPLAN
CROTON-ON-HUDSON, NEW YORK
FRANK J. FORSTER AND R. A. GALLIMORE, ARCHITECTS



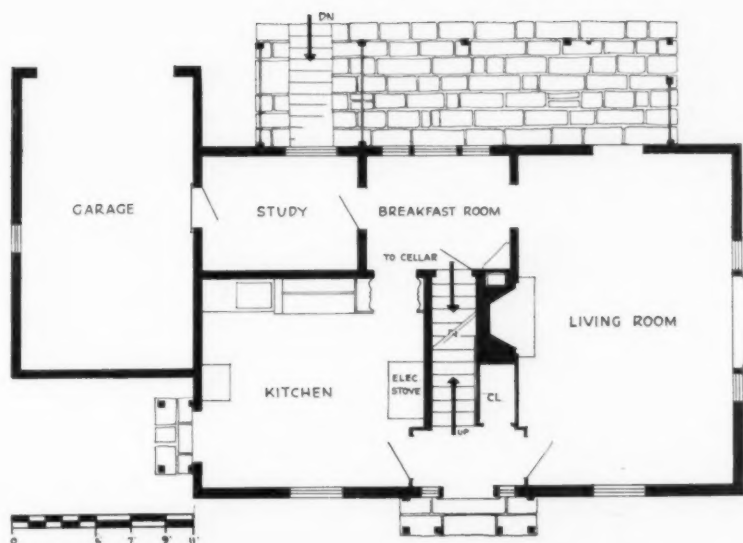


Photographs by George H. Van Anda

HOUSE OF CHARLES K. MOSER AT KENT, CONNECTICUT
ALLAN McDOWELL, DESIGNER



Exterior side walls are shingles laid $8\frac{1}{2}$ " to weather on first story. Second story gable ends are wide redwood laid vertically with molded edges; front and back are flush pine board laid horizontally. Roof: wood shingles 5" to weather. Interior walls are plaster and paper with exception of kitchen and bath (painted). Living room is plastered, except for fireplace wall of vertical redwood boards with molded edges. Equipment: electric range, refrigerator and water pump. Water heated with small coal stove. No furnace as yet, although provision has been made for future installation. Hand-made wrought hardware.





George H. Van Ande

Color scheme: stained gray roof, white chimney, white shingles with second story board just off white (oyster shell), dark blue blinds and porch ceilings. All interior trim is bone white. Panel wall of living room is natural redwood with ceiling painted dark blue. Cost of house (completed this year): \$4,500.



HOUSE OF CHARLES K. MOSER
KENT, CONNECTICUT
ALLAN McDOWELL, DESIGNER



Gustav Anderson

HOUSE OF MRS. HELEN WADE AT HARBOUR GREEN, LONG ISLAND
HARMON REALTY CORPORATION — RANDOLPH EVANS, ARCHITECT



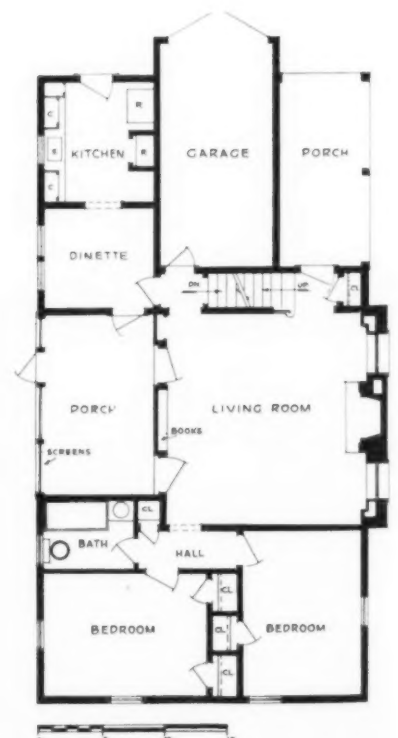
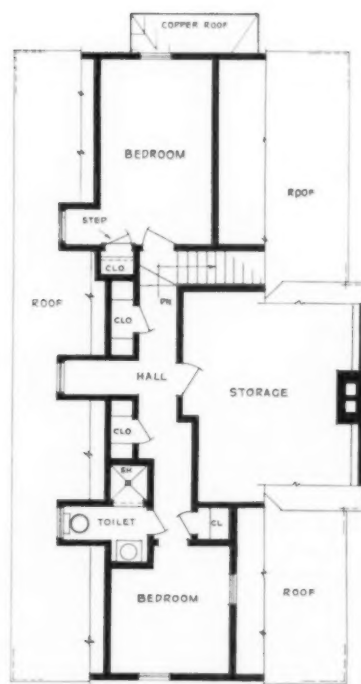
Construction: clapboard walls with roof of cedar shingles. Oak floors. Oil burner supplies steam heat. Color scheme: white walls and green roof. Cost (completed in 1934): \$4,200.



Photographs by Gustav Anderson

Construction: walls and roof of wood shingles. Oak floors. Steam heating. Color scheme: white walls and green roof. Cost (house completed in 1933): \$6,100.

HOUSE OF MRS. LUCILLE D. BOYLE
HARBOR GREEN, LONG ISLAND
RANDOLPH EVANS, ARCHITECT





HOUSE OF SANFORD WARD AT HARBOR GREEN, LONG ISLAND
RANDOLPH EVANS, ARCHITECT

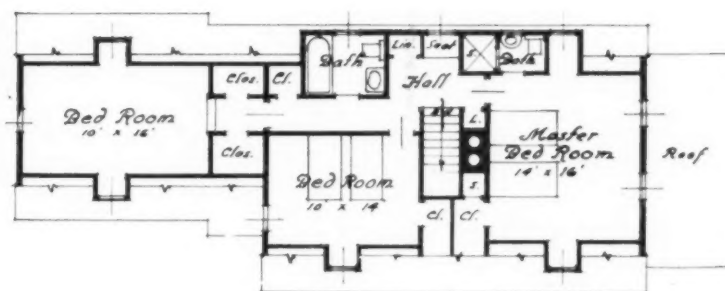
Construction: clapboard siding. Wood shingle roof. Oak floors. Steam heating. Color scheme: white walls and green roof. Cost (house completed this year): \$4,600.



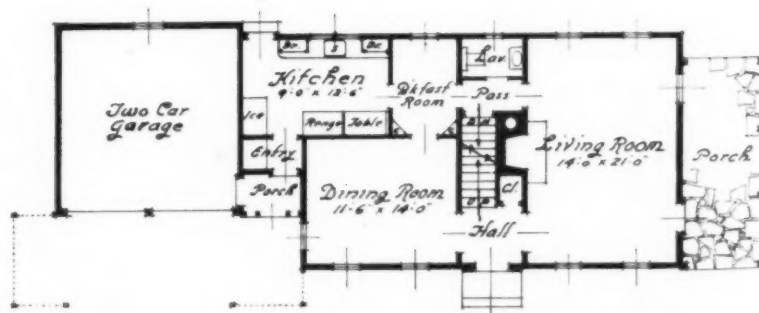


Photograph by Gustav Anderson

Materials: hand-rived cypress shingles for exterior walls with white pine trim. Roof of cedar shingles. Interior trim of white pine except in recreation room which is of pecky cypress. White pine wainscot in living room. Red oak floors throughout. Linoleum floors in kitchen and breakfast room. Walls: paper over white finished plaster. Color scheme: pure white walls and dark green stained roof. Blinds are painted black green. Interior woodwork is cream white. Equipment: concealed radiation with two-pipe steam heating plant and oil burner. Cost (house completed last year): \$8,500 complete, including landscaping.

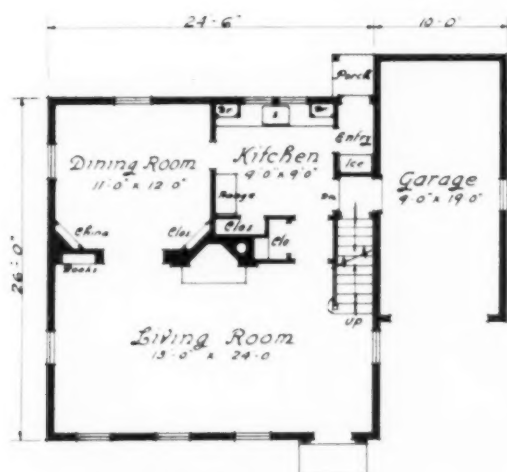


- Second Floor Plan -



- First Floor Plan -

HOUSE AT ROCKVILLE CENTRE, L. I.
MAXMILLIAN R. JOHNKE, ARCHITECT



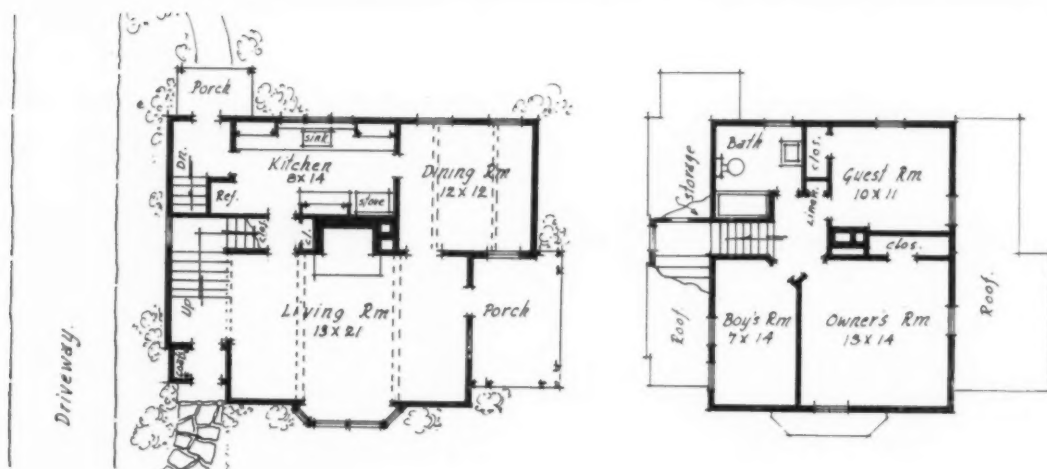
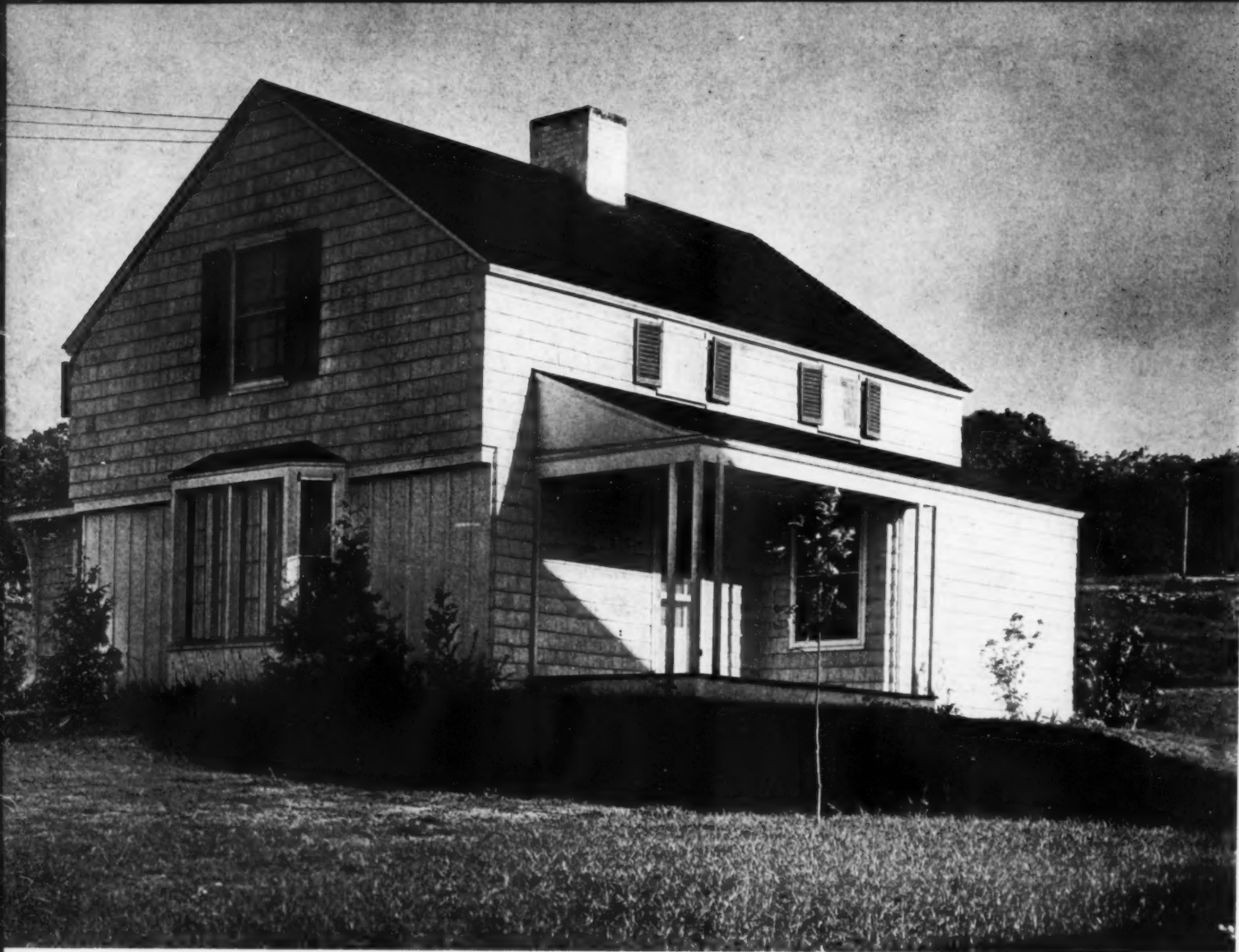
First Floor Plan



Second Floor Plan

Materials: cedar shingles 8" to weather. White pine trim. Interior finish of knotty pine on first floor and white pine on second floor and in kitchen. Random width oak floor and red oak strip floors. Warm air heating. Color scheme: white walls and trim with dark green stained roof and blinds. Cost (house completed last year): \$3,215.

CAPE COD COTTAGE AT HEMPSTEAD, L. I.
MAXMILLIAN R. JOHNKE, ARCHITECT



Frame construction insulated with rock wool. Exterior walls of stained white shingle and white pine boards with battens. Stained black shingle roof. Heating: hot air furnace. Cost: \$7,500.

HOUSE OF KENNETH STODDARD
SYRACUSE, NEW YORK
CHARLES H. UMBRECHT, ARCHITECT

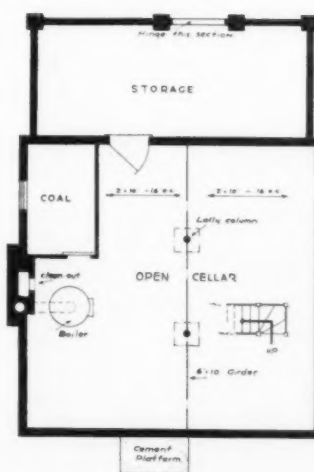


HOMELAND CO. HOUSE IN YONKERS, NEW YORK
WILLIAM CAIN, ARCHITECT

Outline specifications: concrete block foundations. Cement floor cellar. All interior walls of pine sheathing on studs. All exterior walls have Celotex on outside of studs and pine sheathing on inside. Celotex is also placed on tops of roof rafters which are left exposed. Exterior walls finished with clapboards. Wood shingled roof. Oak floors. Stained woodwork. Steam heating. Cost: \$3,000.



FIRST FLOOR PLAN



CELLAR PLAN



Walls are of wood stud construction with wood sheathing, building paper, air space, and stucco on metal lath. To prevent checking, horizontal and vertical strips of sheet metal divide the stucco into comparatively small panels; these strips are secured to the sheathing and form expansion joints.

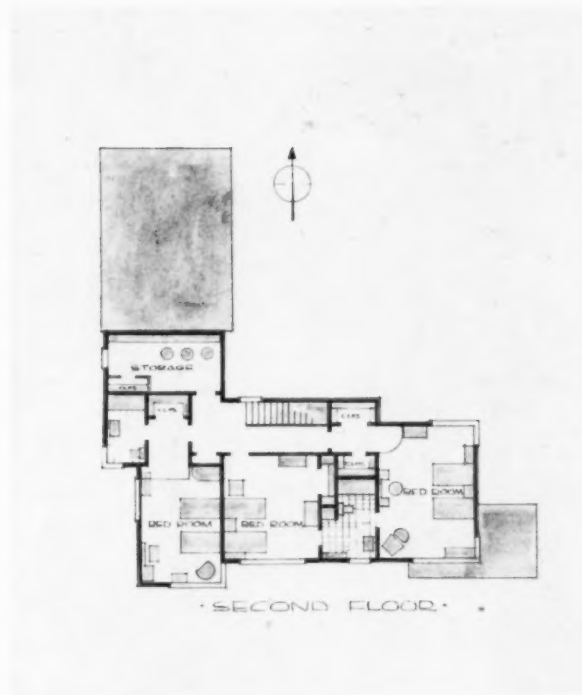
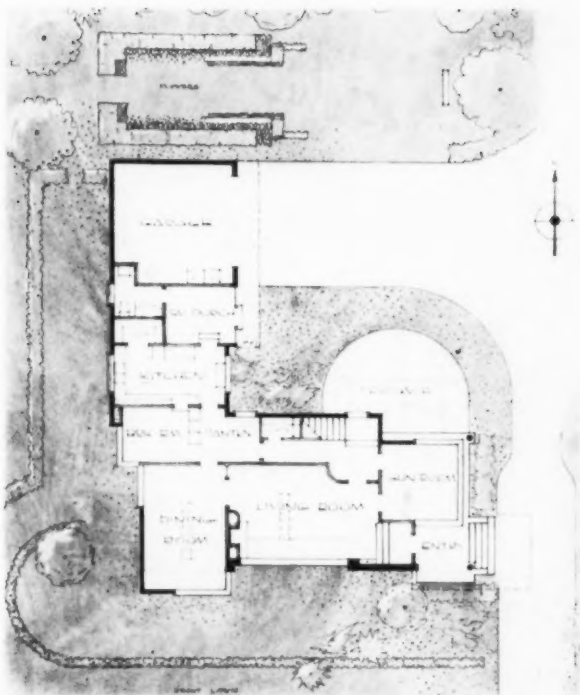
The roof is conventional flat composition type laid on sheathing supported by rafters that are trussed with ceiling joists. A feature is the absence of parapet and gutters. The cornice flashing forms a gravel guard around the edge of the roof and the two downspouts are carried to the concrete driveway which serves as a surface drain.

In general the floors are of wood construction and covered with rubber sheet linoleum. Windows are stock steel casements with vertical muntin bar removed. They are set in a wood frame that allows the windows to project beyond the exterior stucco surface, giving a more waterproof construction.

The house is heated by gas steam radiators and wall heaters. There is no basement.

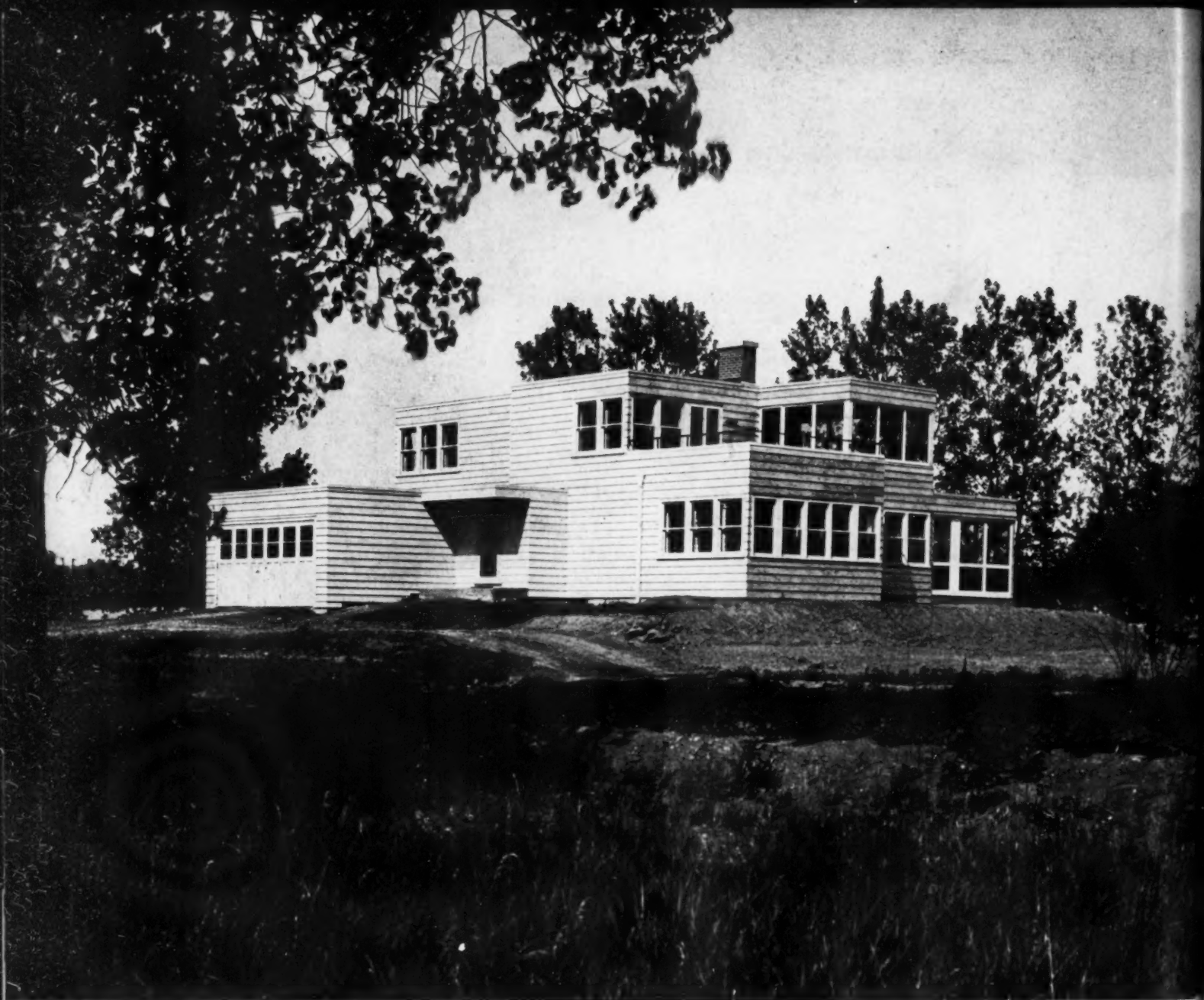
Color scheme: exterior walls are of white stucco and dark red brick; sash is painted black, cornice bright red. Walls and ceilings are treated in three colors, the ceiling being the color of one of the walls. The living room and dining room are painted in two shades of neutralized orange and white. The carpet is olive green.

HOUSE OF I. E. WILE IN SHREVEPORT, LOUISIANA
JONES, ROESSLE, OLSCHNER AND WIENER, ARCHITECTS



LIVING ROOM LOOKING TOWARD SUN PARLOR





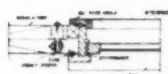
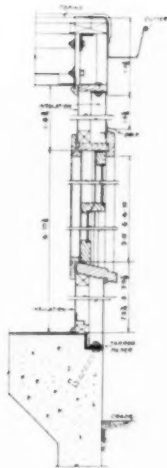
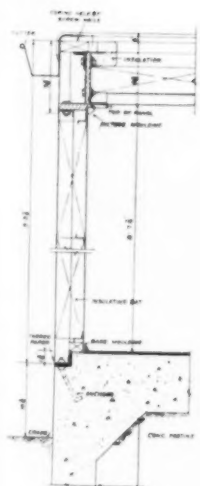
Regular frame construction, using
lumber of a special pre-shrunk
variety.

HOUSE OF S. R. LOGAN
WILLOW ROAD
NORTHBROOK, ILLINOIS

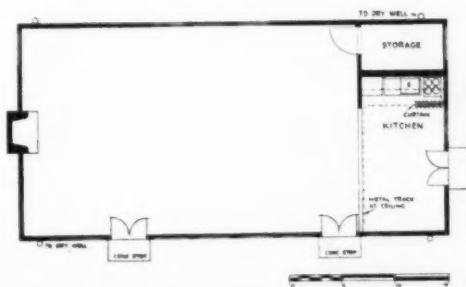
GENERAL HOUSES, INC.
HOWARD T. FISHER, ARCHT.

ALBERT S. BIGELOW AND
PHILIP WILL, JR., ASSOCIATES



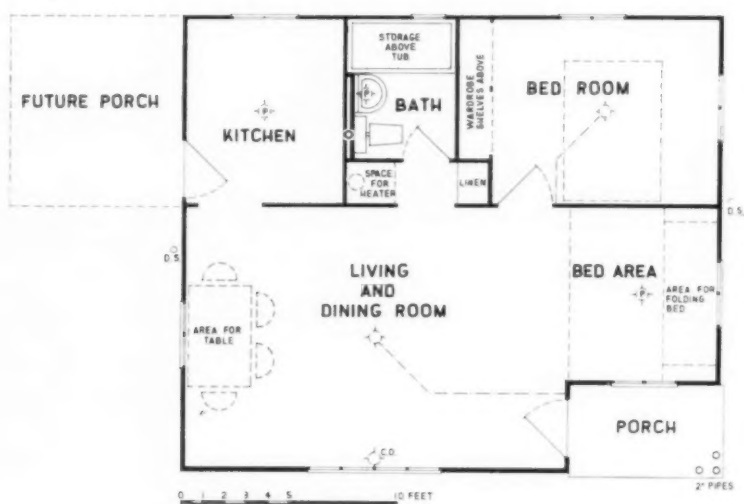
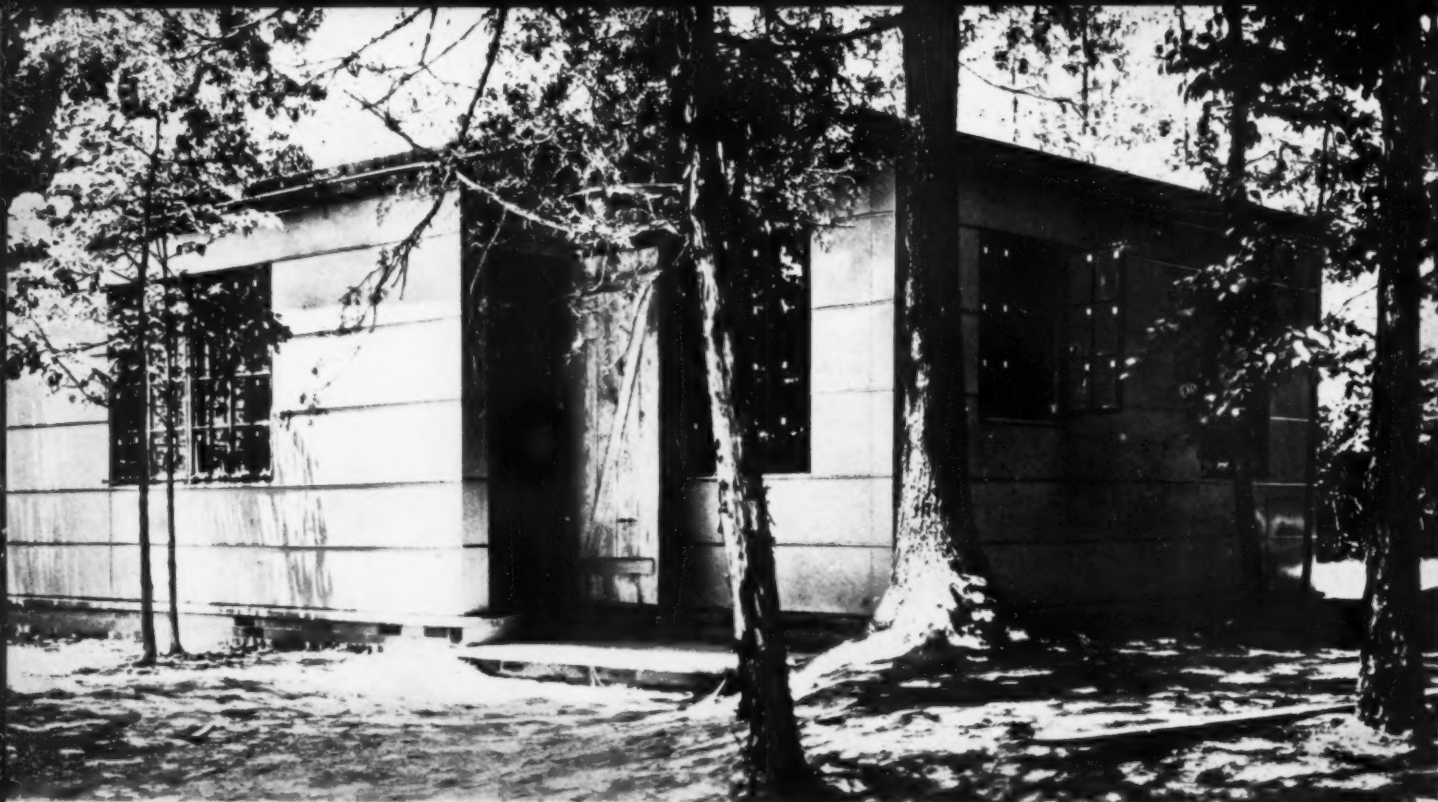


WALL CONSTRUCTION DETAILS

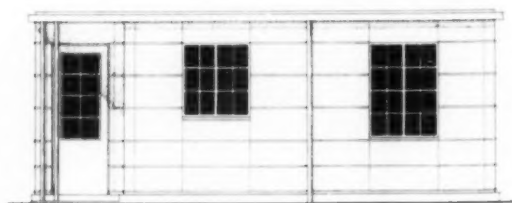
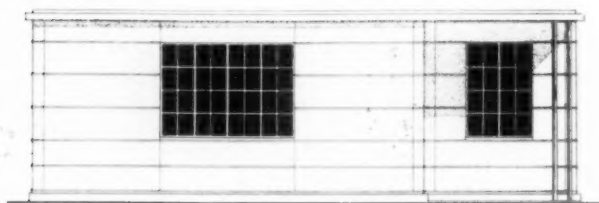
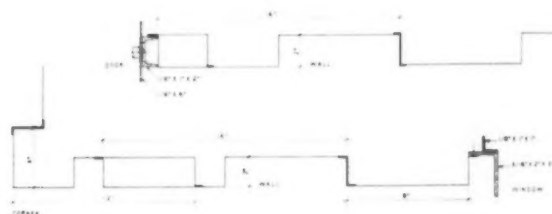


The main house on the Swift Estate is occupied by three generations. The recreation house has been erected to provide additional living room space, a place where parties could be held without disturbing other members of the family. A small kitchenette is provided for cooking and cocktail mixing. When not in use, the kitchenette is concealed behind a curtain suspended from a ceiling track. A storage closet is used for games, card tables, and the like. The prefabricated fireplace burns wood. Linoleum is laid directly over the concrete sub-floor.

RECREATION HOUSE
FOR HUNTINGTON B. HENRY
SWIFT ESTATE
LAKE FOREST, ILLINOIS
GENERAL HOUSES, INC.
HOWARD T. FISHER, ARCHITECT



The porcelain enamel siding is practically maintenance free. It will never require painting, and can easily be cleaned with a damp cloth. The enameled iron is attached to the side of the house with a newly-invented clip-strip of stainless steel. The house will cost \$2,100. Unit electric heaters will supply heat.



ALL-STEEL HOUSE FOR TENNESSEE VALLEY AUTHORITY

NORRIS, TENNESSEE—ROBERT SMITH, JR., ARCHITECT—PAUL FREDRIC ROBSON, ASSOCIATE

BUILT BY AMERICAN ROLLING MILL CO.

CHECK LIST FOR NEW CONSTRUCTION
AND MODERNIZATION OF HOUSES
INCLUDING
DIMENSIONS OF ESSENTIAL EQUIPMENT
AND FURNITURE FOR THE HOUSE

PREPARED BY A. LAWRENCE KOCHER AND ALBERT FREY

GENERAL

MAKE SURE HOUSE IS STRUCTURALLY SOUND.

EXAMINE CONDITION OF FOOTINGS, FOUNDATIONS, WALLS AND HOUSE CONSTRUCTION AND DETERMINE EXTENT OF ESSENTIAL REPAIRS REQUIRED.

Houses should be securely anchored to foundations.

IS IT NECESSARY TO REPLACE SUPPORTS AND WALLS FOR STABILITY AND CONVENIENCE OF ARRANGEMENT?

ARE BASEMENT WALLS DAMP?

Remedy: grade exterior, or remove earth at outer wall face, apply asphalt paint to exterior of masonry, fill trench against wall with stone, apply cement coating with a mixture of asphalt or use R. I. W. or other approved waterproofing compound.

THE LOT SHOULD BE GRADED OR DRAINED SO THAT THERE WILL BE NO STANDING WATER.

STUDY ALL UNUSED SPACE.

RE-ORIENT ROOMS OF HOUSE.

Improve arrangement and provide more desirable exposure.

THERE SHOULD BE DIRECT SUNSHINE AT SOME TIME OF DAY IN EACH ROOM THROUGHOUT THE YEAR.

No room should have only a north exposure.

NORTH ROOMS SHOULD HAVE ADDITIONAL WINDOWS TO EITHER THE EAST OR WEST.

The north rooms would therefore be corner rooms.

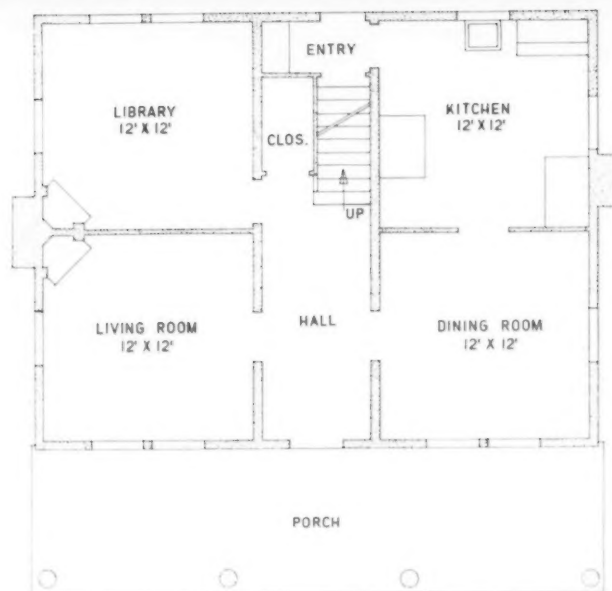
COVERED PORCHES SHOULD NOT BE SO PLACED AS TO REDUCE UNDULY THE NATURAL LIGHTING OF ROOMS.

No room should receive its sole natural light from windows opening upon covered or glassed-in porches.

STUDY EVERY FLOOR LEVEL, AND APPROACHES.

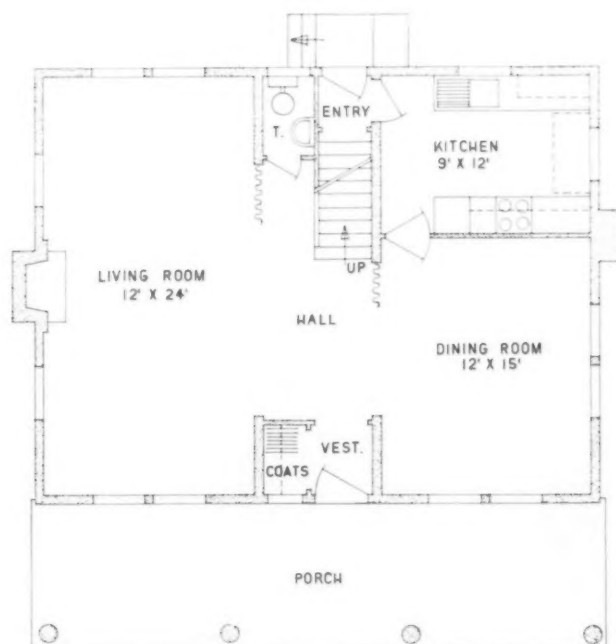
THE ROOM ARRANGEMENT IN THE HOUSE PLAN SHOULD BE SUCH AS TO MAKE IT POSSIBLE TO AVOID WASTE MOTION.

Save unnecessary steps and facilitate housework by improved arrangement. There should be relatively easy access from room to room but it should be possible also to close each room off from the others when it is desired.

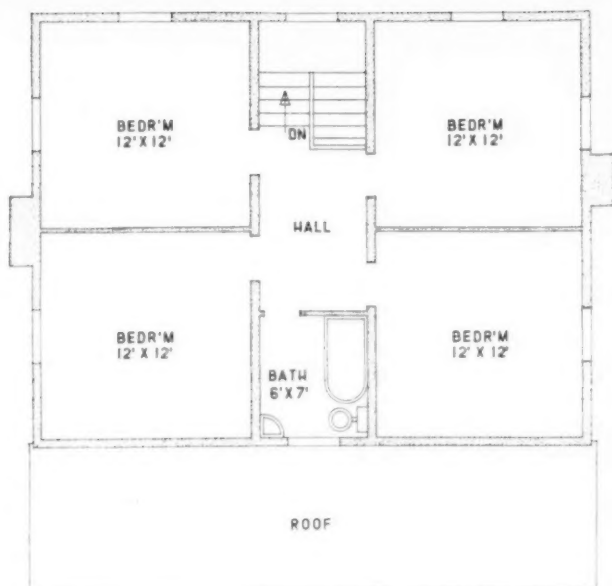


A. TYPICAL GROUND FLOOR PLAN (BEFORE ALTERATION).

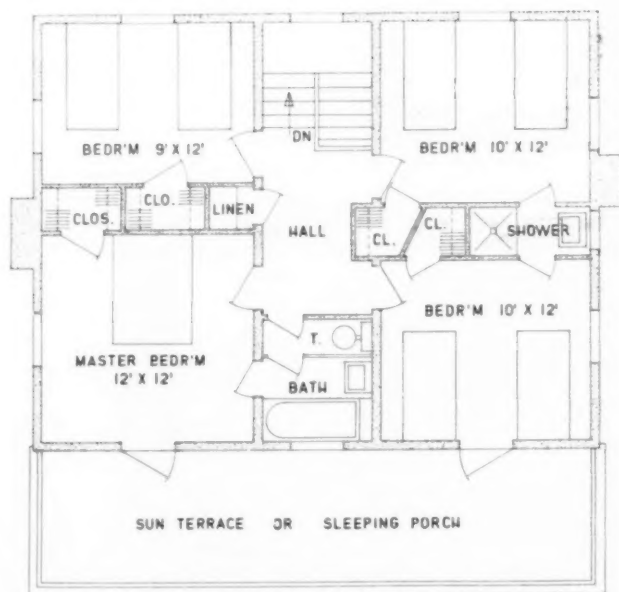
ROOMS TOO SMALL AND BOX-LIKE; WASTE SPACE IN KITCHEN AND HALL. THERE IS A DEPRESSING AND CONFINED CHARACTER WITH A SUCCESSION OF SMALL ROOMS. PLAN LACKING IN CONVENIENCES.



B. SUGGESTED ALTERATION OF GROUND FLOOR PLAN SO AS TO OBTAIN OPENNESS OF PLAN; GREATER USE OF ENTIRE FLOOR AREA; POSSIBILITIES FOR CONTROLLED PRIVACY; ADDITION OF VENTILATED TOILET AND CONVENIENT COAT CLOSET; KITCHEN ARRANGED SO AS TO SAVE STEPS; SMALL SHELTER OVER REAR DOOR; PASSAGE FROM KITCHEN TO DINING ROOM DOES NOT INTERFERE WITH WORK AREA AND OFFERS SUITABLE SPACE FOR SERVING TABLE; MORE PRACTICAL LOCATION OF FIRE-PLACE.



TYPICAL 2D FLOOR PLAN (BEFORE ALTERATION). NO DISTINCTION IN ROOM SIZES FOR DIFFERENT USES; NO BUILT-IN CLOSETS; INADEQUATE BATHROOM FACILITIES; THERE IS NO CROSS VENTILATION IN FRONT BEDROOMS; OBSOLETE PLUMBING FIXTURES.



SUGGESTED ALTERATION OF 2D FLOOR PLAN. ALL BEDROOMS HAVE ADEQUATE BUILT-IN CLOSETS; BEDROOMS ARE SUITED IN SIZE TO VARIED USE; CROSS VENTILATION ADDED FOR ALL ROOMS; BATHROOM REARRANGED WITH NEW FIXTURES AND INCLOSED TOILET FOR USE DURING OCCUPANCY OF BATH; ADDITIONAL SHOWER AND WASH BASIN BETWEEN TWO BEDROOMS; ROOF OVER PORCH ALTERED TO SUN TERRACE OR SLEEPING PORCH; LINEN CLOSET ACCESSIBLE FROM HALL; ROOM LAYOUT SUITED TO FURNITURE.

PROVIDE FOR PROPER DAYLIGHTING OF EVERY ROOM.

"Each room should have at least one window, but preferably two or more, opening directly on a permanent open space sufficient in size to admit adequate light and sunlight. The total window space should not be less than fifteen square feet in area. The tops of windows should be as near the ceiling as is consistent with good architectural design. Windows should be so constructed that they can be opened either throughout all of their area or at both top and bottom."*

ENLARGE EXISTING ROOMS.

COMBINE TWO ROOMS AS ONE.

ADD NEW ROOMS.

CONSIDER DESIRABILITY OF AN OFFICE.

ADD UNNEEDED HALL SPACE TO ROOMS OR CLOSETS.

CONVERT EXISTING ROOMS TO NEW USES.

STUDY PLAN FOR IMPROVED OR ADDED ENTRANCES.

PROVIDE TERRACE ACCESSIBLE FROM LIVING ROOM.

INCLOSE PORCH TO SERVE AS ADDITION TO LIVING ROOM.

MAKE ROOF ACCESSIBLE FOR OUTDOOR LIVING PORCH.

ADD SUN PORCH.

INSTALL WASHROOM AND TOILET ON FIRST FLOOR.

Preferably enclosed and ventilated.

COMBINE HOUSE AND GARAGE WITH SHELTERED PASSAGE TO HOUSE.

DETERMINE POSSIBILITIES FOR MAKING BASEMENT AND ATTIC MORE USEFUL.

ELIMINATE ARRANGEMENTS WHICH MAY CAUSE ACCIDENTS.

Steep or dark stairways, low ceilings, low window sills, door steps, steps without railing.

SIMPLIFY ROOF CONTOUR.

Eliminate unnecessary gables and dormers.

REMOVE DECAYED AND OBSOLETE ORNAMENTAL TRIMMINGS FROM HOUSE AND PORCHES.

*The Home and The Child. The Century Co., N. Y.

KITCHEN

REARRANGE EQUIPMENT TO CONCENTRATE WORKING AREA.

In the placing of equipment consider the preparation of food, service to dining table and rear entry.

SEPARATE PASSAGE FROM REAR ENTRANCE TO DINING ROOM FROM WORK SPACE.**PROVIDE CROSS VENTILATION.****REDUCE ROOM DIMENSIONS TO SAVE STEPS.****ADD EXTRA SPACE TO DINING ROOM.****INSTALL DOUBLE-ACTING DOORS TO DINING ROOM.****ARRANGE FOR DIRECT DAYLIGHT ON ALL EQUIPMENT AND WORK SURFACES.****BUILD IN BREAKFAST NOOK.****ADD CABINETS, SHELVES AND WORK COUNTERS.**

Use local or standard cabinet units. Linoleum, stainless steel or enameled steel for work surfaces.

PROVIDE NEW PANTRY SHELVES.**INSTALL DROP TABLE.****COVER DRAIN-BOARDS AND SINK COVER**

with linoleum or other sanitary material.

INSTALL BROOM, MOP AND CLEANER CLOSET.

Use local or standard cabinet.

IMPROVE UTILIZATION OF STORAGE SPACES

with adjustable shelving and hooks for orderly hanging of cooking utensils.

BUILD AN OUTSIDE VENTILATED CUPBOARD FOR KEEPING VEGETABLES.

Ventilation through wall at top and bottom shelves, screened. Shelves with holes for air circulation, or of wire mesh.

BUILD IN IRONING BOARD.

Recessed cabinet, 48" to 56" high, 12" to 16" wide.

BUILD IN ELECTRIC FAN,

particularly if kitchen is not provided with cross ventilation. Fan should be near stove in upper part of window or built in wall cabinet. 14" square, 12" propeller is recommended.

INSTALL MILK AND PACKAGE RECEIVER.

Steel body, two doors, outer door insulated, burglar-proof lock, wall opening 14" wide, 12" high.

PROVIDE SANITARY GARBAGE DISPOSAL EQUIPMENT.

Garbage receiver with foot lever.

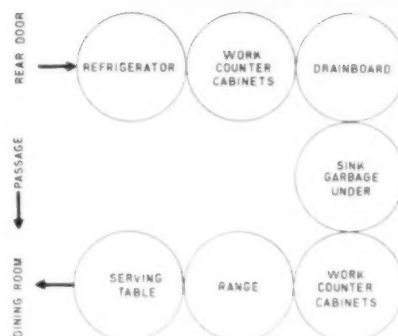
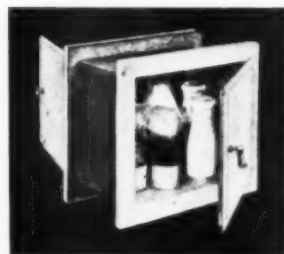


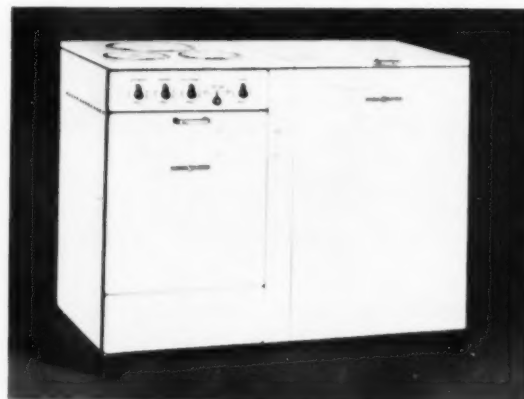
DIAGRAM OF KITCHEN, SHOWING LOCATION OF EQUIPMENT WITH RELATION TO SEQUENCE OF WORK IN FOOD PREPARATION AND SERVICE.



A MILK AND PACKAGE RECEIVER; STEEL BODY, TWO DOORS, OUTER DOOR INSULATED, BURGLAR-PROOF LOCK, WALL OPENING 14" WIDE, 12" HIGH.



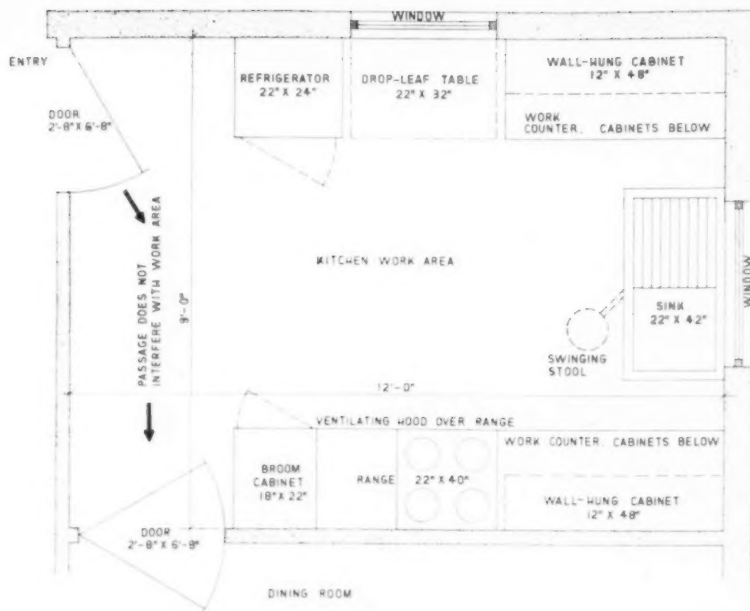
***NEW TYPE ELECTRIC FLUSH TOP RANGE, 18" WIDE, 24" DEEP, 36" HIGH. COOKING UNITS: TWO 6 1/2" DIAMETER, 1,000 WATTS; ONE 8 1/2" DIAMETER, 2,000 WATTS. OVEN UNIT: 14" WIDE, 18" DEEP, 18" HIGH, 3,000 WATTS. PRICE AT THE FACTORY, \$72.**



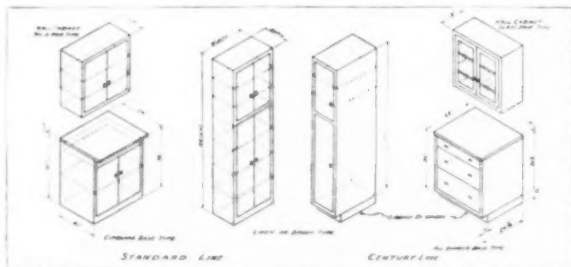
***RANGE AND REFRIGERATOR COMBINED, 42 1/8" WIDE, 24" DEEP, 36" HIGH. PRICE AT THE FACTORY, \$139.50.**

***NEW TYPE ELECTRIC LIFT-TOP REFRIGERATOR, 21" WIDE, 23 7/8" DEEP, 36" HIGH. COOLING SPACE: 16" WIDE, 16" DEEP, 13 1/4" HIGH. TWO FREEZING TRAYS OF 10 CUBES EACH, 2 LB. OF ICE TOTAL. CURRENT CONSUMPTION, 20 TO 25 KW. PER MONTH. OPERATING TIME, 18 TO 22 PER CENT OF THE TIME WITH AVERAGE FOOD LOAD AND AVERAGE OPERATING CONDITIONS. PRICE AT THE FACTORY, \$74.50.**

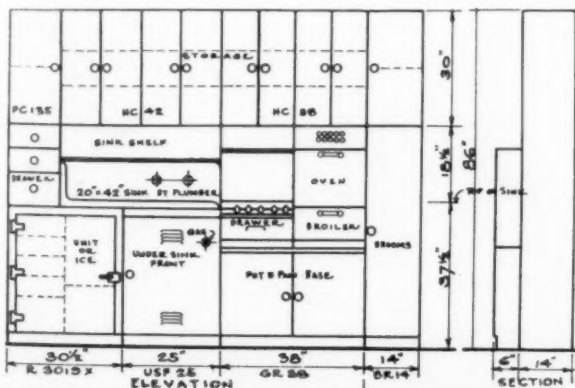
*Developed for TVA, and suitable for kitchens in any locality.



PRACTICAL KITCHEN LAYOUT ACCORDING TO SEQUENCE OF WORK IN FOOD PREPARATION AND SERVICE; KITCHEN ARRANGED SO AS TO SAVE STEPS. PASSAGE FROM KITCHEN TO DINING ROOM DOES NOT INTERFERE WITH WORK AREA. WORK COUNTERS WITH WALL-HUNG CABINETS PROVIDE MAXIMUM SURFACE FOR FOOD PREPARATION AND STORAGE SPACE.



STANDARDIZED KITCHEN CABINET UNITS. THESE UNITS MAY BE COMBINED WITH RANGE, SINK AND REFRIGERATOR AND SUIT KITCHENS OF VARIED SIZES AND ARRANGEMENTS.



A COMPOSITION OF VARIED **ESSENTIAL KITCHEN UNITS.** THIS IS A COMPLETE ASSEMBLY OF SINK, REFRIGERATOR, RANGE, BROILER AND STORAGE CABINETS IN MOST COMPACT FORM.

INSTALL PANTRY SINK FOR WASHING DISHES.

REPLACE OLD RANGE WITH NEW ONE.

Gas or electric. May be combined with cabinets or refrigerator unit.

PROVIDE ILLUMINATION OVER RANGE AND SINK.

ADD A CABINET NEAR THE RANGE

for kettles, pans and other cooking utensils.

CONSIDER NEW LOCATION FOR REFRIGERATOR.

INSTALL AN AUTOMATIC REFRIGERATOR.

Electric or gas; may be combined with cabinets.

ARRANGE THE SINK WITH DRAIN-BOARD TO THE LEFT AND FLAT SURFACE TO THE RIGHT.

PROVIDE A DUMB-WAITER.

Sanitary metal or wood cabinet and doors, hand-operated.

ADD A SERVING TABLE OR WHEEL TABLE.

INSTALL OUTSIDE ICE-DELIVERY DOOR.

PROVIDE DISH STORAGE

accessible from kitchen and dining room to save steps.

LAY A WATERPROOF AND RESILIENT FLOOR.

Linoleum; rubber.

APPLY LIGHT, WASHABLE FINISH TO WALLS.

Tile; washable fabric; enamel paint.

PROVIDE A MARBLE SLAB FOR PASTRY MAKING.

Recessed in work surface or table.

CHECK SAFETY LOCK FOR REAR DOOR.

BUILD IN ELECTRIC CLOCK.

BUILD IN CAN AND BOTTLE OPENERS.

PROVIDE ATTACHMENT FOR MEAT CHOPPER.

DINING ROOM

ALTER SIZE OF ROOM TO NEEDS.

Consider number of persons at table, furniture and space to circulate.

CHECK ON DESIRABILITY OF EXPOSURE AND VIEWS.

Relocate or group windows. East or west exposure is preferable for dining.

PLACE DINING TABLE SO AS TO RECEIVE AMPLE WINDOW LIGHT.

Tentative standards of the International Congress on Illumination, held at Lake Saranac in 1928, suggest that at least some of the sky should be visible from table height over a considerable part of the room's area and that sunlight should be able to penetrate to at least half of the depth of the room.

REPLACE IMPRACTICAL FURNITURE.

Use practical furniture having smooth surfaces, of moderate bulk and of light weight.

IMPROVE RELATION TO KITCHEN.

Shortest traveling distance. Double swinging doors.

ARRANGE CHINA CABINETS NEAR KITCHEN DOOR.

Wall-hung types are convenient.

PROVIDE CONVENIENT ACCESS TO LIVING ROOM.

Increase width of entrance.

ADD A DINING PORCH ACCESSIBLE FROM KITCHEN.

Glass at side as protection from winds or completely inclosed with removable windows to increase number of days porch can be used.

LAY A LINOLEUM FLOOR.

Tan or gray shades that do not show steps; plain. Use felt under linoleum.

REPLACE WOOD FLOOR OR SCRAPE EXISTING FLOOR.

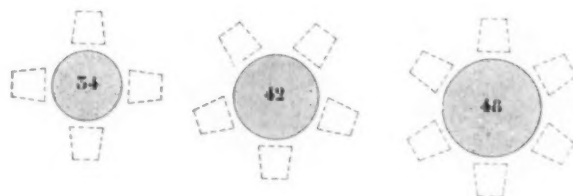
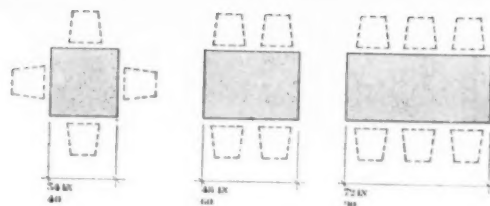
Maple, oak, birch.

APPLY PRACTICAL FINISH TO WALLS IN CHEERFUL COLORS.

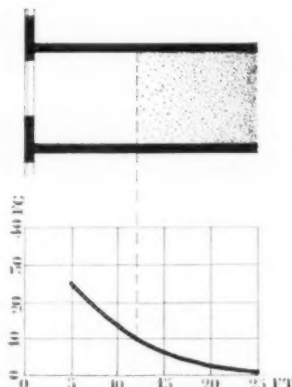
Washable; dust shedding. Paint or fabric in light shades of tan, green, blue or rose. Light colored wood.

MAKE CEILING SMOOTH AND LIGHT IN COLOR TO IMPROVE ILLUMINATION.

Remove plaster ornaments, refinish white or cream.



DINING TABLES OF STOCK SIZES, SHOWING SEATING POSSIBILITIES. THE TABLE DIMENSIONS, FURNITURE AND SPACE FOR SERVICE DETERMINE THE DINING ROOM SIZE.



A DIAGRAM SHOWING HOW MUCH LIGHT IS ADMITTED BY WINDOW, AN AID FOR DETERMINING WINDOW HEIGHT. A WINDOW ADMITS SATISFACTORY DAYLIGHT IN ROOM INTERIORS APPROXIMATELY TWICE THE WINDOW HEIGHT.

A COMBINED LIVING AND DINING ROOM. LIGHT IS CONTROLLED BY VENETIAN BLINDS. WINDOWS ARE STEEL CASEMENTS OF FIXED AND OPENING TYPES. FLOOR LAID WITH CORK IN 18" x 24" PIECES, NO BORDERS.





SECTIONAL FURNITURE (BOOK SHELVING WITH DESK). DRAWERS, CABINETS; EASY TO KEEP CLEAN AND TRANSPORT; CAPABLE OF VARIED ARRANGEMENTS.



A REMODELED GUEST HOUSE. A GARDEN HOUSE WAS CONVERTED TO RESIDENCE USE; WALL AND CEILING LIGHT ADDED; WALLS SEVERELY PLAIN; BOOKCASES WITH DOORS, SLIDING IN PAIRS, OF SHEET ALUMINUM.



LIVING ROOM THAT OPENS BY GLAZED DOORS DIRECTLY TO GARDEN.

LIVING ROOM

MAKE POSSIBLE COMBINATION OF LIVING AND DINING ROOMS FOR ENTERTAINING.

Separate with curtain, folding or sliding partition. "The downstairs common rooms include the living room, dining room and also the parlor and music room. When these are provided, they may be designed to open into one another so as to facilitate the entertainment of guests. Also, however, it should be possible to close off each room so that any member of the family may entertain personal guests in privacy."*

ELIMINATE UNNECESSARY DOORS.

Combine rooms for living with hall.

GROUP WINDOWS FOR OUTLOOK AND UNBROKEN WALL-SPACE.

Use folding type, or type presenting little obstruction of frames. Sunset view desirable. Consider possibilities for screening and cleaning.

REARRANGE FURNITURE FOR CONVENIENCE AND EASE.

Eliminate unnecessary pieces. Consider daylighting, lines of traffic and free space for entertaining.

BUILD IN NEW FURNITURE.

REPLACE OLD CUMBERSOME FURNITURE WITH LIGHT, FOLDING TYPES.

ADD BUILT-IN BOOKCASES.

Build from floor to ceiling or recess in wall at convenient height. Provide adjustable shelving.

BUILD A PORCH RELATING TO THE LIVING ROOM.

Southern exposure, facing flower garden or view. Avoid darkening of living room by building porch on side where most windows are located.

LAY A NEW FLOOR OR CARPET.

Linoleum, carpet or hardwood. Plain.

INSTALL LIGHT COLORED, FLUSH WOOD PANELING.

White pine, birch, gum, of plywood or flexwood.

IMPROVE ACOUSTICS OF CEILING.

Acoustic felt; tile or insulation board.

PROVIDE STORAGE OF WOOD CONVENIENT TO FIREPLACE.

Dimension box to log sizes of 16", 24", 30" and 48".

MODERNIZE TRIM AND DOORS, ELIMINATING DUST-CATCHING CORNERS.

Use flush type steel or wood moldings.

REPLACE OLD, UNHANDY HARDWARE.

Use smooth, simple kind, chromium-plated.

MAKE NEW SHADES HARMONIZE WITH COLOR SCHEME.

Washable, non-fading material preferred.

IMPROVE DAYLIGHTING BY ELIMINATION OF EXCESSIVE AND DARK CURTAINS.

Use light pastel color for curtains that harmonize with walls.

INSTALL OUTSIDE AWNINGS FOR COOLNESS.

Spring roller type for easy operation and neat appearance. Install 2"-3" off wall to permit escape of heated air. Bright red, blue or green add cheerful note to house.

*White House Child Conference Recommendations. See *The Home and The Child*. The Century Company, New York.

BATHROOM

BUILD ADDITIONAL BATHROOM OR SHOWER BETWEEN BEDROOMS.

Minimal sizes of: shower with lavatory, 2'-9" x 6'-10"; room with tub, lavatory, toilet, 5'-0" x 5'-0".

SEPARATE BATHROOM FROM TOILET FOR CONVENIENCE.

6'-0" high partition between toilet and other fixtures.

REPLACE OLD FIXTURES WITH MODERN BUILT-IN TYPES.

Built-in bathtub, shower; colored fixtures; chromium fittings.

PROVIDE SANITARY TOILET SEAT.

Seamless sheet covering.

INSTALL SHOWER STALL OR CURTAIN IN TUB.

Shower sizes, 32" x 32", 34" x 34", 36" x 36".
Curtain—water repellent, mildew resisting, crack-proof, shrinkproof.

LAY WATERPROOF FLOORING.

Tile, terrazzo, linoleum, rubber, cork.

PROVIDE BATHROOM STOOL WITH CORK SEAT.

Height, 13½".

CHECK FOR PIPE LEAKS, CLEAN-OUT FACILITIES, DRAINS AND TRAPS.

ADD SHUT-OFF COCKS OR VALVES.

For control of water in bathroom. Brass or copper, automatic pressure relief.

PROVIDE DRESSING ROOM FACILITIES.

PROVIDE TOWEL RACK.

Chromium, accessible from wash basin.

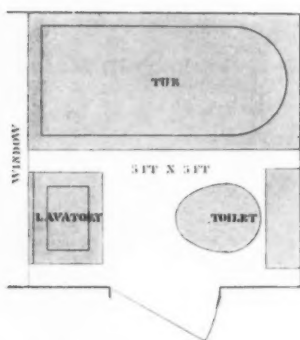
INSTALL SANITARY WINDOW SILL.

Glass or vitreous slab.

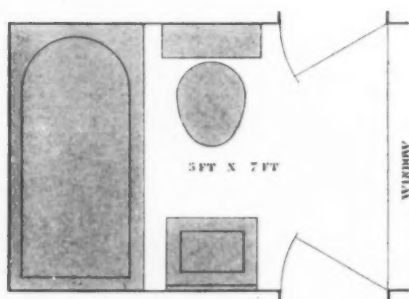
PROVIDE CABINET FOR BATHTUB AND SHOWER VALVES.

Access door with space for repair.

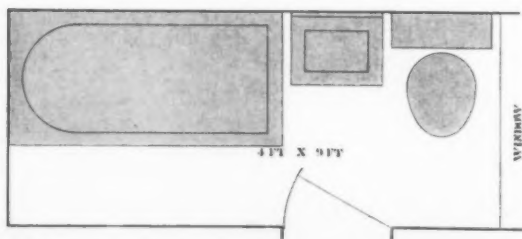
REPLACE NOISY TOILET FLUSH SYSTEM WITH NEW SILENT TYPE.



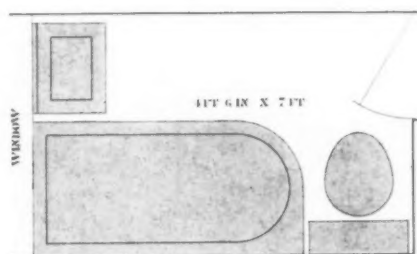
SMALLEST POSSIBLE BATH ROOM. SINGLE DOOR ENTRY (25 SQUARE FEET).



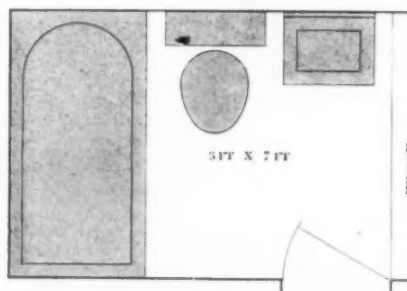
BATHROOM OF MINIMUM SIZE BETWEEN TWO ROOMS (35 SQUARE FEET).



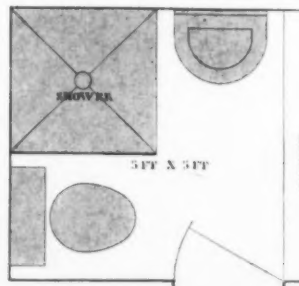
NARROWEST PRACTICABLE ARRANGEMENT TO PARALLEL DEEP ROOMS. FIXTURES ARE IN ROW FOR ECONOMY. (36 SQUARE FEET.)



BATHROOM OF NARROW ARRANGEMENT SUITED TO ACCESS FROM HALL (31½ SQUARE FEET).



SPACIOUS ARRANGEMENT. SINGLE DOOR ENTRY (35 SQUARE FEET).



ARRANGEMENT OF MINIMUM SIZE WITH SHOWER (25 SQUARE FEET).

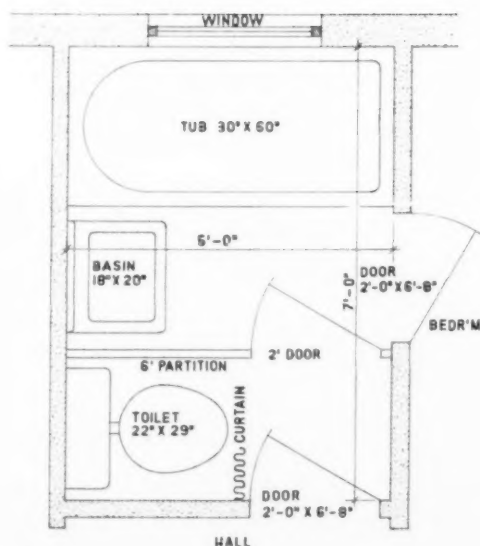
TYPICAL PLAN ARRANGEMENTS FOR THE BATHROOM.



MEDICINE CABINET WITH BUILT-IN INDIRECT LIGHT FROM BELOW. MIRROR DOOR, NARROW CHROMIUM-PLATED FRAME.



LINEN CABINET OF BUILT-IN TYPE. FULL SIZE MIRROR IN DOOR FRAME, ADJUSTABLE SHELVES. SIZES, 16" TO 18" WIDE, 60" HIGH, 4" TO 12" DEEP.



IMPROVED BATHROOM LAYOUT. SEPARATION OF TOILET FROM BATHROOM INCREASING CONVENIENT ENTRY TO TOILET; SIDE WINDOW WOULD BE PREFERRED TO OVERTUB LOCATION WHERE POSSIBLE; THIS BATHROOM IS ACCESSIBLE FROM HALL AND ADJOINING BEDROOM.

REFINISH WALLS WITH TILE OR OTHER SANITARY MATERIAL.
Washable fabric, vitreous slabs, phenolic resin fibre sheets.

INSTALL RECESSED MEDICINE CABINET WITH MIRROR AND LIGHT.

Built-in or adjustable lights at sides or bottom. Sizes, 16" to 20" wide, 20" to 30" high, 3" to 4" deep.

PROVIDE BUILT-IN SHELVING.

BUILD IN LINEN CABINET WITH MIRROR DOOR.

Sizes, 16" to 18" wide, 60" high, 4" to 12" deep.

ADD WARDROBE OR HOOKS.

Porcelain enamel, or chromium-plated.

INSTALL TRANSLUCENT GLASS IN WINDOW.

Ribbed, squared, etched, smooth-rough. Complete diffusion.

RECESS SOAP HOLDERS.

Vitreous china, matched with tiles.

INSTALL LIQUID SOAP SUPPLY.

PROVIDE A TUB HAND SUPPORT.

Porcelain enamel; chromium-plated; cork covered for insulation.

REPLACE HANDLES AND OUTLETS WITH SMOOTH, STAINLESS TYPES.

Chromium-plated.

ADD WASHROOM WITH TOILET ON FIRST FLOOR.

Minimum size, 3'-0" x 4'-6".

INSTALL A CLOTHES CHUTE.

Round, 12" to 24" diameter. Inside, glass enameled metal, or aluminum, flush inside.

BUILD IN LAUNDRY HAMPER.

PROVIDE HOT WATER BAG HOOK.

INSTALL RAZOR BLADE DISPOSAL.

BUILD IN SCALE.

Flush with floor, dial on wall.

INSTALL SHOWER WITH ENTRANCE FROM HALL TO SUPPLEMENT BATHROOM.

Of a group of 637 urban families which discussed bathroom satisfactions and dissatisfactions, 245, or 45 per cent, want a second bathroom.

PROVIDE ELECTRIC HEATER (BUILT-IN).

Chromium-plated reflector, adjustable heating units 9" x 9" and 13" x 13", 4" deep.

INSTALL EQUIPMENT FOR INSTANTANEOUS HOT WATER SUPPLY.

Gas or electric; copper boiler.

PROVIDE SHOCK-PROOF ELECTRIC FIXTURES.

ADD TOWEL RODS.

Porcelain enamel; glass; chromium-plated.

REPLACE SHOWER HEAD

with type adjustable for different flows and of self-cleaning construction. Finished in chromium plate.

PLUMBING

INSTALL AUTOMATIC WATER PUMP.

Quiet, automatic operation; quick suction pick-up; electric or gasoline, automatic lubrication.

REPLACE CORRODED PIPING WITH MODERN, DURABLE TYPE.

"With galvanized pipe, it is quite likely that after a period of, say, 15 years the area may be decreased as much as 25 per cent; if the water contains lime, it is possible that 50 per cent of the area may be lost."

Noiseless installation; copper or brass pipe; flexible tubing.

INSULATE WATER PIPES AGAINST FREEZING.

Moulded cork coverings; fibre felt; asbestos-cement; hair felt.

PROVIDE WATER-SOFTENING SYSTEM.

Simplified, quick regeneration, corrosion-proof tank.

REPLACE RUSTY TANK WITH STAINLESS TYPE.

Copper; stainless steel.

PROVIDE LAUNDRY TUBS.

Porcelain; porcelain enamel; slate; concrete.

INSTALL REFRIGERATOR DRAIN.

Non-clog, odorless type with safety trap.

BUILD PERMANENT DRAINBOARD AT KITCHEN SINK OR REPLACE WITH COMBINATION.

Stainless metal drainboard.

ADD NEW MIXING FAUCETS.

Chromium-plated, with soap holder.

BUILD IN ELECTRIC DISHWASHER.

Combined with kitchen sink.

REPLACE WASHERS IN LEAKY FAUCETS.

REPAIR DEFECTIVE VALVES IN WATER CLOSETS.

INSTALL VENT PIPES.

BUILD IN NEW BATHTUB.

30" to 36" wide, 54" to 72" long.

MATCH NEW FIXTURES WITH COLOR SCHEMES.

White, black, cream, blue, green, flesh, orchid.

PROVIDE LAVATORIES IN BEDROOMS.

15" x 18" to 20" x 24".

BUILD IN A SHOWER.

Sizes, 32" x 32", 34" x 34", 36" x 36".

CONVERT LARGE CLOSET INTO EXTRA TOILET OR SHOWER ROOM.

CHROMIUM-PLATE OLD NICKEL-PLATED FAUCETS AND FITTINGS WHICH ARE UNSIGHTLY.

INSTALL ADDITIONAL SILL COCKS FOR WATERING GARDEN, OR FOR WASHING CAR.

Brass or bronze.

INSTALL LAUNDRY MACHINE.

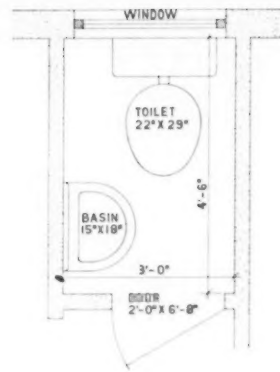
Electric washer and wringer; centrifugal extractor.

IMPROVE SEWAGE DISPOSAL SYSTEM.

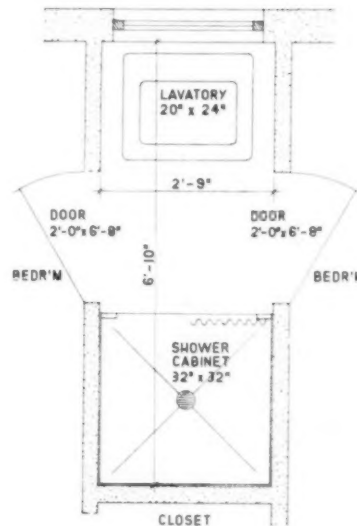
Airtight septic tank of reinforced concrete or corrosion-proof iron. Capacity of at least one day's sewage flow. Facilities for cleaning.

PROVIDE AUTOMATIC SHOWER MIXER.

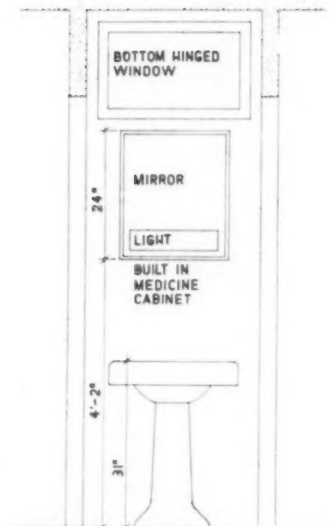
ADD LAVATORY IN HALLWAY.



WASHROOM OF SMALL SIZE FOR LOCATION ON GROUND FLOOR OR BASEMENT. THE ADDITION OF A GROUND FLOOR WASHROOM AND TOILET WILL BE A MOST FREQUENT AND DESIRABLE IMPROVEMENT TO THE MODERNIZED HOUSE. SPACE FOR THIS ADDITION CAN OFTEN BE FOUND IN HALLWAYS, UNDER STAIRS OR CONVERTING CLOSET OR PANTRY TO THIS USE.



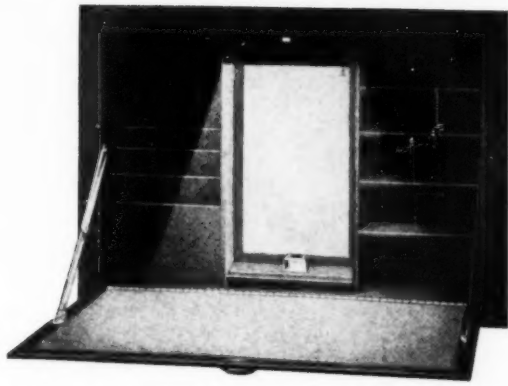
PLAN OF SHOWER AND LAVATORY COMPARTMENT BETWEEN BEDROOMS REQUIRING MODERATE FLOOR SPACE; SUITABLE TO CONVERSION OF EXISTING CLOSET; SHOWER IS A SELF-CONTAINED CABINET OF STANDARD SIZE ON THE MARKET; REQUIRES ONLY 19 SQUARE FEET.



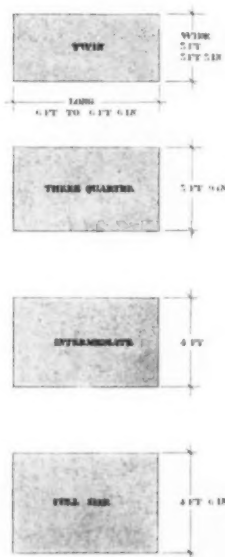
ELEVATION OF LAVATORY COMPARTMENT SHOWN IN PLAN AT LEFT; CORRECT LOCATION OF FIXTURES AND WINDOW; PRACTICAL HEIGHTS FOR FIXTURES; LIGHTING OF PERSON FACING MIRROR IS EITHER BY WINDOW ABOVE OR BY ELECTRIC REFLECTOR AT BASE OF MIRROR.



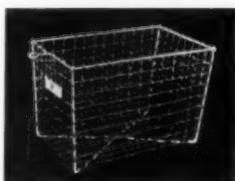
FLEXIBLE COPPER TUBING CAN BE READILY INSTALLED IN OLD PARTITIONS; NO FITTINGS REQUIRED; ECONOMICAL. DIAMETER UP TO 1 1/4"; UP TO 60 FEET IN LENGTH; ORDINARILY SUPPLIED IN 20-FOOT LENGTHS.



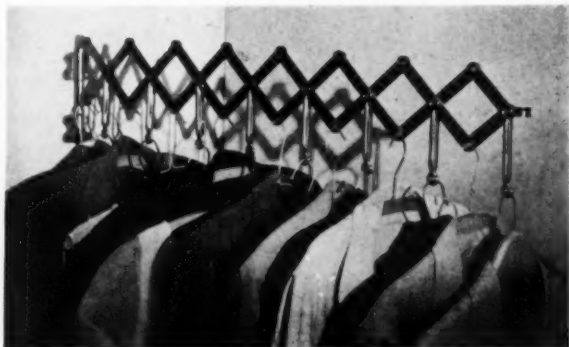
BUILT-IN WALL DESK. 32" WIDE, 24" HIGH, 5" DEEP.



RANGE OF TYPICAL BED SIZES. LENGTHS AND WIDTHS OF BEDS ARE STANDARDIZED AS SHOWN HERE, BUT THE HEIGHT OF BEDS VARIES ACCORDING TO USE AND STYLE.



BASKET OF WOVEN WIRE FOR GARMENT STORAGE THAT IN SOME CASES MAY REPLACE DRAWERS. CONTENTS ARE VISIBLE. THE BASKET IS EASILY TRANSPORTABLE BECAUSE OF ITS LIGHT WEIGHT.



TELESCOPIC HANGER THAT OCCUPIES LITTLE SPACE WHEN COMPRESSED AND WHICH PERMITS EXTENSION AND BRINGS CLOTHES INTO PLAIN SIGHT.

BEDROOMS

MAKE SHAPE OF ROOMS AND LOCATION OF WINDOWS AND DOORS SUIT PLACING OF BEDS.

Rectangular rooms are easier furnished than oddly shaped rooms.

IMPROVE EXPOSURE OF ROOMS.

East exposure preferable. West not suited for children's bedrooms. Setting sun keeps them awake longer. South preferable to north.

PROVIDE CROSS VENTILATION.

Windows or doors on opposite walls or diagonal. Where windows are inconvenient, louvers should be installed. Louvered doors to hall.

GIVE EVERY BEDROOM DIRECT ACCESS FROM HALL.

PROVIDE A CLOTHES CLOSET IN EVERY ROOM.

Minimal floor area required for one person, 24" x 36". Provide two closets in rooms occupied by two persons.

INSTALL EFFICIENT STORAGE EQUIPMENT IN CLOSETS.

Hanging rod, drawers, hat shelf, shoe rack, tie rack, hat stands, coat hooks, shoe-shining drawer.

LINE CLOSETS WITH MOTHPROOF MATERIAL OR CEDAR.

Construction reference. Plastic moth-repellent coating; aromatic plaster; cedar paint.

PROVIDE FULL LENGTH MIRROR ON WALL OR CLOSET DOOR.

Mirror size, 18" to 20" x 60".

MAKE POSSIBLE COMBINATION OF CHILDREN'S BEDROOMS FOR LARGER PLAY AREA.

With folding partitions, wood or fabric, horizontally sliding or double doors.

PROVIDE EXTRA BEDROOM BY SUBDIVIDING LARGE ROOM.

Consider dimensions of beds and space to get around.

INSTALL IN-A-DOOR BED FOR EMERGENCY.

Single bed closet, 30" x 42". Double bed, 30" x 60".

ADD SLEEPING PORCH OR SUN TERRACE.

Southern exposure preferred. Floor covered with painted canvas. Terrace on roof level cool in summer and free from insects.

PARTITION-OFF DRESSING ROOM OR CLOSET.

INSTALL BUILT-IN WALL DESK.

32" wide, 24" high, 5" deep.

RE-CARPET THE FLOOR IN ACCORDANCE WITH GENERAL LAYOUT.

Plain shades of light tan, gray or green.

REFINISH WALLS AND CEILING IN PLAIN, QUIET COLORS.

Flat paint; cold water paint; washable fabric. Use pastel shades of blue, green, rose, tan.

BUILD IN SMALL WALL-SAFE IN MASTER BEDROOM.

Small size, 7" high, 12" wide, 8" deep; medium size, 12" high, 12" wide, 8" deep; large size, 20" high, 20" wide, 15" deep, and up.

BEDROOMS (Continued)

AROMATIC RED CEDAR CLOSET LINING.

Closets lined with red cedar heartwood of correct thickness and construction are a very satisfactory protection against clothes moths, provided the articles to be stored are first thoroughly brushed or otherwise treated to remove the older clothes moth larvae. The volatile oil in the pure heartwood of red cedar gives off an aroma that kills the newly hatched or young larvae or worms of clothes moths. The cedar lining for walls, floors and ceiling must be approximately airtight, $\frac{3}{4}$ " or more in thickness. Veneering of cedar is not effective. Cedar closets cannot be depended upon to kill the moths, their eggs or worms after they are one-half to full grown or after they are 3 or 4 months old.* It is therefore essential that clothing hung or stored in cedar closets or chests be free from the older larvae or moth worms.

CONSTRUCTION OF RED CEDAR CLOSETS

The U. S. Department of Commerce recommends the following construction: "The entire surface of the closet should be covered, including the inside of the door, with $\frac{3}{8}$ " cedar lining. It is preferable to use $1\frac{3}{16}$ " cedar flooring for covering the floors, but $\frac{3}{8}$ " may be substituted if desired. The door should be tight fitting, and, if necessary, it should be weatherstripped.

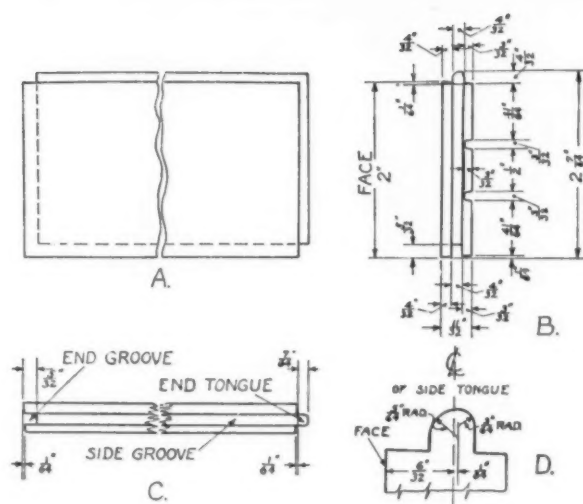
"In lining a closet already built and plastered, the lining may be placed directly on the plaster if care is exercised to nail on the studding. Face nailing is recommended, but blind nailing may be used if preferred. It is not necessary that the end joints come directly over the studding as the end matching will hold any short pieces in perfect position that may be placed between studding.

"Red cedar shelving is recommended. This adds to the general appearance of the closet or storage room and also increases its efficiency. It is also recommended that all corners be fitted with cedar quarter-round moulding, since the more cedar that checks destruction by moths, and the greater the quantity of cedar, the greater the amount of aroma.

CEDAR CLOSETS IN NEW HOMES.

"Where installation is being made in new homes, it is recommended that the closet be lined with wall-board, deadening felt, or other insulating material free from offensive odors, or else plastered, but it may be nailed directly on the studding. In this event it is best to close all spaces between studding at the floor and at the ceiling in order to prevent the escape of aroma between the studs. Another method of preventing this loss of aroma from the back side of the lining is to coat it with a suitable material which will effectively seal the wood. Such protective coatings as shellac, paraffine, or lacquer, which are quick drying, have been found effective for this purpose.

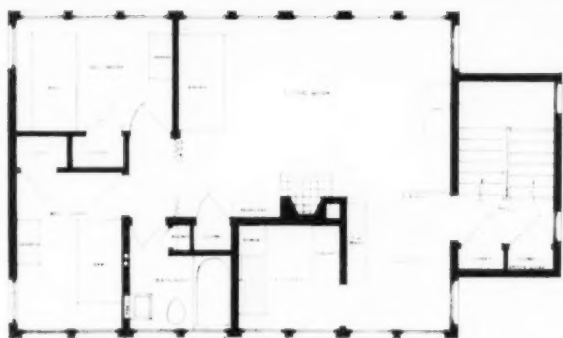
"Positively no paint, varnish, or other finish should be used on the interior of the closet, since this would seal the wood and prevent the volatilization of the cedar oil which is the effective agent in protecting stored materials from ravages by clothes moths. Furthermore, painted or varnished surfaces within the closet may soften or become tacky and in this condition may damage garments coming in contact with them."



CEDAR LINING DETAIL WITH DIMENSIONS AND APPROVED PROFILE FOR JOINTING. THE CEDAR LINING FOR WALLS SHOULD BE AT LEAST $\frac{3}{8}$ " THICK. THE FLOORING OF CEDAR IS PREFERABLY $1\frac{3}{16}$ " IN THICKNESS AS A MINIMUM AND MAY SLOPE TOWARD DOOR OR MAY BE RAISED APPROXIMATELY 2" ABOVE LEVEL OF OUTSIDE ROOM FLOOR.



CLOTHES CLOSET OF HEAVY STEEL, WELDED AND MADE WITH TWO COMPARTMENTS. DRAWERS ARE OF DUST-PROOF CONSTRUCTION.



FIRST FLOOR

EXAMPLE OF COMPACT ARRANGEMENT OF ROOMS; COMBINED LIVING AND DINING SPACE; WINDOWS ON OPPOSITE SIDES BECAUSE OF VIEWS AND FOR CROSS VENTILATION; GROUPED PLUMBING; SIX BUILT-IN CLOSETS; COMPACT STAIRWAY DOES NOT INTERRUPT MAIN FLOOR FRAMING.



RECESSED CABINET FOR FIRE EXTINGUISHER. 2½ GALLON CAPACITY, STEEL CABINET, 12" WIDE, 30" HIGH, 8" DEEP.



VIEW OF COAT CLOSET ACCESSIBLE FROM ENTRANCE HALL. LAVATORY FACILITIES ARE PROVIDED. WALLS AND DOORS HAVE SANITARY WASHABLE FINISHES OF GLAZED TILE AND ENAMEL.

GENERAL INTERIOR WORK AND EQUIPMENT

PROVIDE SAFE HEAD ROOM UNDER STAIRS.

7'-0" minimum. "Triangular turns on stairs are unsafe and undesirable. Handrails or balustrades within the reach of young children should be provided on all stairs, including those leading to the cellar and attic. All stairs should be adequately lighted and where there are young children it is often advisable to place gates at the tops of stairs."

REPLACE WORN-OUT STAIR TREADS.

COVER TREADS WITH LINOLEUM, RUBBER OR CARPET.

CHECK SAFETY OF HANDRAILS.

TRANSFORM CLOSED STAIRWAY INTO OPEN ONE, ADDING SPACE TO HALL OR ROOMS.

MAKE ALL WINDOWS AND DOORS WORK PROPERLY.

New pulleys; mouldings; cords.

WEATHERSTRIP WINDOWS AND DOORS WHERE NEEDED.

Zinc, copper, bronze, brass, felt, sponge rubber.

REFIT WITH NEW AND SAFE HARDWARE.

Use friction door hinges; exterior doors with safety locks in knob.

REPAIR DEFECTIVE BLINDS AND SHUTTERS.

REPLACE WOOD PANELS IN DOORS WITH GLASS FOR LIGHT OR VISION.

INSTALL WINDOW ADJUSTERS AND DOOR CHECKS.

Window operators eliminating removal of screens, door checks, exposed at head or concealed in floor.

RE-PUTTY DEFECTIVE WINDOW PANES.

REPLACE OLD GLAZING WITH ULTRA-VIOLET RAY GLASS IN SUN ROOM OR CHILDREN'S PLAYROOM.

CAULK JOINTS BETWEEN WOOD TRIM AND MASONRY.

INSTALL STORM SASH.

Interchangeable with screens.

CONSIDER ROLLSCREENS WHERE PREFERABLE.

REPAIR OR REPLACE SCREENS.

"Screening of aluminum wire or chromium alloys does not stain building. Screening excludes light. Select mesh according to purpose: 14 mesh—flies; 16 mesh—mosquitoes; 18 mesh—gnats."*

BUILD A COAT CLOSET NEAR THE ENTRANCE.

20" to 24" deep, 36" to 48" wide. "There should be a closet for outdoor wraps on the entrance floor near the outside door, which can be reached through any of the rooms. There should be a separate closet for children's outdoor wraps or else special provision should be made for them in this closet through low hooks and rods and low shelves or other special equipment for overshoes."*

INSTALL MIRROR IN HALLWAY.

BUILD SEAT OR CHEST IN HALL.

* The Home and The Child. The Century Co., N. Y.

GENERAL INTERIOR WORK AND EQUIPMENT (Continued)

PLAN STORAGE SPACE FOR PAPER, STRING, BAGS, SEWING MACHINE, GOLF BAGS, TENNIS RACKETS, CHILDREN'S TOYS.

"All closets should have doors, and knobs on the inside so that they can be opened by children. Low drawers and cupboards or other special provision should be made for children's playthings."*

EQUIP CLOSET ON EACH FLOOR FOR BROOMS AND CLEANING SUPPLIES.

Size, 12" to 20" deep, 16" to 24" wide.

BUILD IN AN IRONING BOARD IN BATHROOM OR SEWING ROOM.

Recessed cabinet, 48" to 56" high, 12" to 16" wide.

RE-NAIL WOOD FLOORS TO ELIMINATE CREAKING.

ADJUST OR RENEW BASEBOARDS.

APPLY INSULATION TO FLOORS, WALLS AND ROOFS.

Insulation board; rock wool; rock felt; sprayed flake insulation; quilt insulation; cork; shredded wood-cement boards; aluminum foil.

BUILT-IN MAIL BOX.

Size, 4" wide, 16" high, 4" deep.

INSTALL RECESSED TELEPHONE CABINET.

Size, 12" x 12", 4" deep.

PROVIDE BUILT-IN CABINET FOR FIRE EXTINGUISHER.

Size, 12" wide, 30" high, 8" deep.

REPLACE OLD CURTAINS AND DEFECTIVE RODS WITH BETTER TYPES.

Curtain rails with inside rollers. Venetian blinds to improve control of light.

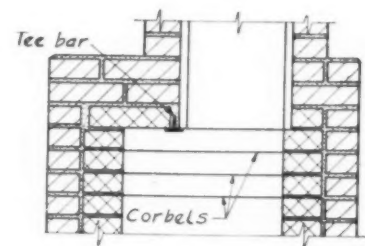
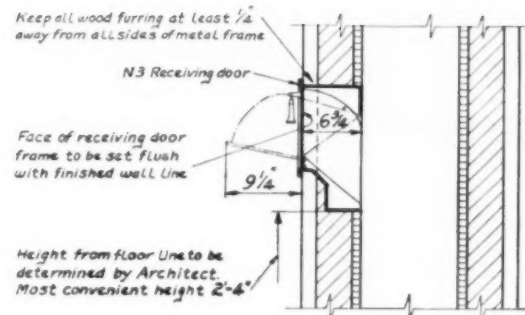
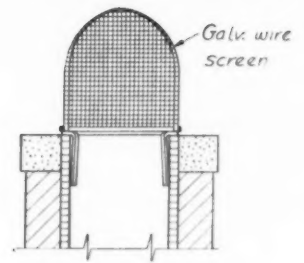
INSULATION

Adding insulation to walls and floors will decrease the cost of heating or offset the loss of efficiency caused by air leakage due to shrinkage and deterioration of materials. The comfort of living will be improved since poorly insulated outside walls admit cold into rooms creating a chilling effect. In order to heat such rooms, the air temperature has to be higher than is comfortable for living.

Insulation should be provided in the outer half of a wall. Since the inner facing is of higher conductivity and low heat capacity, the inner facing of an exposed wall should be an efficient insulating membrane, (plaster on metal lath, sheet rock, plywood). This arrangement permits a rapid adjustment of room and inner wall-surface temperature, for heating or cooling.

Money spent for reducing the heat loss of a house (insulation) should be applied in the following order:

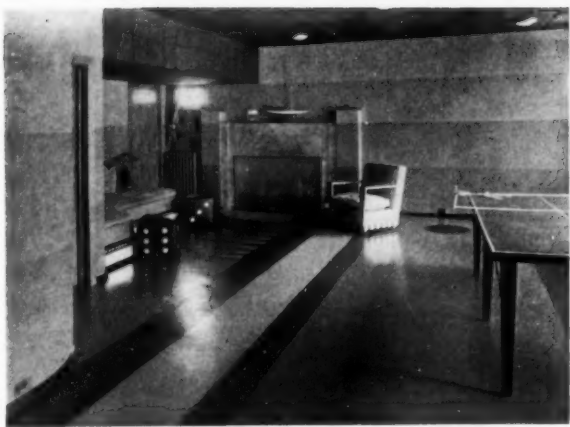
- Weatherstripping.
- Insulate roof or ceiling.
- Insulate walls.
- Double windows.



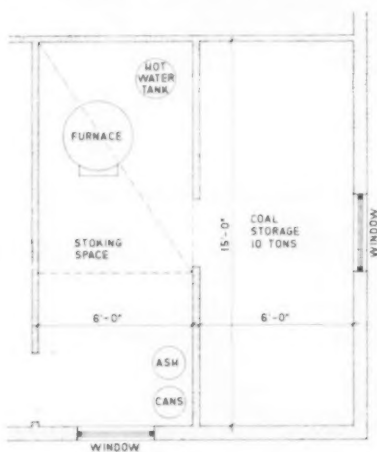
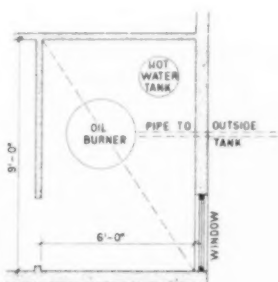
SECTION OF INCINERATOR CHIMNEY SHOWING SAFETY SCREEN OVER TOP, INSTALLATION OF RECEIVING DOOR AND METHOD FOR LAYING BRICKS OVER COMBUSTION CHAMBER.



VIEW SHOWING APPLICATION OF LARGE SHEET OF PLYWOOD OR INSULATION BOARD. WITH BOARDS REACHING FROM FLOOR TO CEILING, SMOOTH FLUSH SURFACES ARE OBTAINED WITH A MINIMUM OF JOINTS. COMMON WIDTH IS 4 FEET, LENGTHS FROM 8 TO 12 FEET.



EXAMPLE OF BASEMENT ALTERED FOR PLAYROOM USE.

CONVENTIONAL
FURNACE ROOM
WITH COAL BIN.← FURNACE SPACE
REQUIRED FOR
OIL OR GAS
FURNACE.

180 SQUARE FEET OF FLOOR AREA REQUIRED FOR CONVENTIONAL SOLID FUEL FURNACE ROOM WITH COAL BIN.
54 SQUARE FEET OF FLOOR AREA REQUIRED FOR HEATER ROOM WITH OIL OR GAS FURNACE.



TERRACE SHELTERED IN LEAST EXPENSIVE METHOD (PIPE FRAME AND AWNING). THE AWNING IS REMOVABLE FOR AUTUMN AND WINTER MONTHS SO AS TO ADMIT SUNLIGHT INTO LIVING ROOM.

BASEMENT

PROVIDE A CEILING CLEARANCE OF AT LEAST 7 FEET.

ADD WINDOWS FOR ADEQUATE DAYLIGHT AND VENTILATION.

Window area not less than 1/10 of floor area.
Openings 1/2 of window area.

IMPROVE STAIRS WITH HAND RAILING OR EASIER TREADS. Risers 7 1/2". Treads 9 1/2". A cellar stairway should have broad treads and comfortable rise because of use of this stairway for moving ash cans, boxes and other heavy objects.

PAINT STAIRWAY TO PREVENT STUMBLING IN THE DARK. Light, bright colors.

ADD OUTSIDE ENTRANCE AND STAIRS.

Risers 7", treads 10 1/2".

APPLY WATERPROOFING TO WALLS.

Cement coating with admixture; asphalt compounds; mastic; waterproof felt or fabric. Special paint. Plastic joint filler. Metallic or integral waterproofing admixtures.

INSTALL DRAIN TILE AROUND OUTSIDE OF FOOTINGS.

Pipe should be below basement floor level.

PROVIDE FIRESTOPS AT SILLS AND AROUND PIPE HOLES.

Plaster on metal lath; mineral wool; asbestos fiber.

ADD BRIDGING TO STIFFEN SAGGING JOISTS.

Pressed steel bridging; wood bridging.

COVER BASEMENT CEILING WITH FIREPROOF MATERIAL.

Plaster on metal lath; sheet metal; asbestos cement boards; sheet rock.

PATCH FLOOR CRACKS.

If concrete floor is in bad condition, it is frequently necessary to remove damaged concrete, and then relay the concrete to within 1/2-inch of the finished surface. The following day, wet the concrete thoroughly and surface the area with a stiff cement mix composed of 1 part portland cement, 3 parts sand. If a crack is repaired, chisel out the joint to a deep wedge-shaped groove, and clean thoroughly. This can then be filled with a stiff cement mix, forcing cement into the groove by hammering in place with a flatboard.

DUSTPROOF CONCRETE FLOORS.

2-3 coats of floor paint, staining and waxing, 2-3 coats of cement hardener.

INSTALL FLOOR DRAINS.

Galvanized cast iron removable brass strainer, with trap for sewer connection.

INSULATE CEILING.

Insulation board; rock wool; aluminum foil.

CAULK AROUND WINDOWS.

APPLY SMOOTH FINISH TO WALLS.

Cement plaster, plastic paint.

BASEMENT (Continued)**BRIGHTEN ROOMS WITH LIGHT COLORS ON WALLS AND CEILING.**

Calcimine; cold water paint in pastel shades; cement paint; flat wall paint.

INCLOSE FUEL STORAGE SPACE.

With fireproof material such as concrete, brick, gypsum planks, stucco on metal lath, sheet metal, asbestos cement board.

INSTALL A COAL CHUTE FROM THE OUTSIDE.

Of copper-bearing steel, glass panel optional, automatic lock, operated with chain from inside. Wall chutes 17" x 24" and 22" x 33". Grade line chutes (door opening) 20" x 24" and 24" x 30".

PARTITION-OFF VENTILATED SPACE FOR FRUIT AND VEGETABLE STORAGE.

Wood frame with insulation board, gypsum planks, hollow tile, cinder concrete tile.

INSTALL A TOILET WITH WASH BASIN.

Minimum room size 3'-0" x 4'-6".

MAKE A RECREATION AND PLAYROOM WITH WALLCASES FOR PLAYTHINGS.

Use cheerful colors (red, blue, green, yellow). Water- and dampproof floor and walls. "The floor area should allow at least eighty-four square feet for each child. Artificial lighting should be high and indirect. If side lights are used they should be out of the child's reach and the light source shielded. Since most of the child's play is on the floor, hardwood floors or floors overlaid with battleship linoleum or cork are recommended."* Minimum room size for ping pong, 10' x 16'.

BUILD A WELL-LIGHTED WORKSHOP WITH BENCH AND SHELVES.

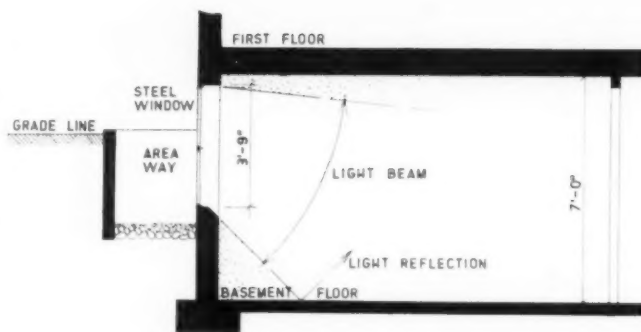
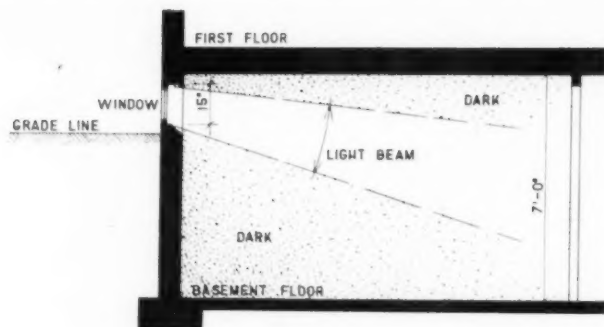
Enlarge windows; use standard size wood or steel sash; utility steel sash. Provide for lumber storage. Adjustable steel shelving: 2" work bench (maple, oak, pine); covered box for refuse; electric bell from first floor to save steps for wife.

PROVIDE DRY AND VENTILATED CLOSET FOR STORAGE OF TRUNKS.

Steamer trunks are: Wardrobe type, 15" x 20" x 40"; Packing type, 13" x 22" x 36".

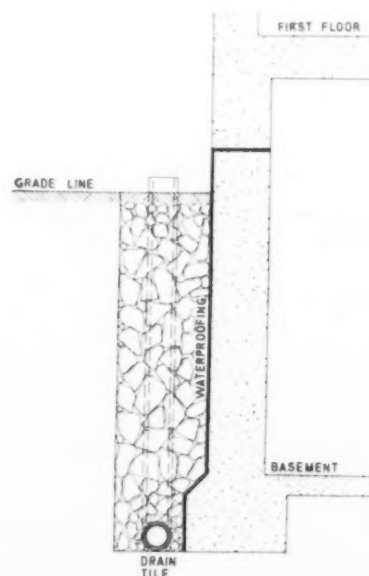
PROVIDE ORGANIZED RACK FOR GARDEN TOOLS.**BUILD SCREEN AND STORM-SASH RACKS.****INSTALL ASH HOIST.****CHECK SAFETY OF WINDOW AND DOOR LOCKS.****INSTALL DARK ROOM FOR PHOTOGRAPHY.**

Provide sink; electric wiring; ventilation.

CONSIDER DESIRABILITY OF A TAP ROOM, LABORATORY, GYMNASIUM.**PROVIDE ADEQUATE VENTILATION FOR BOILER ROOM.****ADD DIRECT OUTSIDE EXIT FOR BOILER ROOM.**

INSTALL LARGER WINDOWS IN BASEMENT. A COMPARISON OF EFFECTIVE DAYLIGHTING BY USE OF SMALL OR LARGE WINDOWS IN BASEMENT. NOT ONLY IS BASEMENT BETTER LIGHTED BY LARGE WINDOWS BUT THE LARGER OPENING PERMITS BETTER VENTILATION AND A DRIER CELLAR. THE STANDARD SASH OF LARGE SIZE COSTS BUT LITTLE MORE THAN THE SMALLER WINDOW.

FOR A PLAYROOM IN BASEMENT THE ENLARGEMENT OF WINDOWS IS PARTICULARLY ESSENTIAL.

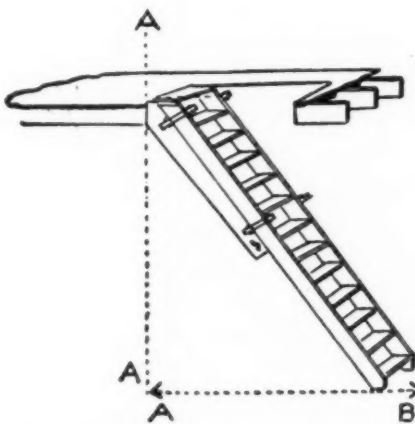


A METHOD FOR WATERPROOFING A BASEMENT WALL. CRUSHED STONE FILL BETWEEN WALL AND EARTH FACILITATES DRAINAGE AWAY FROM WALL TO DRAIN PIPE. THIS PIPE (COMMON DRAIN TILE, 4") SHOULD BE BELOW FLOOR LEVEL. A DRAIN TILE PLACED VERTICALLY AND CONNECTED WITH HORIZONTAL DRAIN WILL PERMIT FLUSHING A CLOGGED DRAIN. WATERPROOF OUTER SURFACE OF WALL WITH ASPHALT COMPOUND, R. I. W. OR OTHER PREPARATION FOR WATERPROOFING.

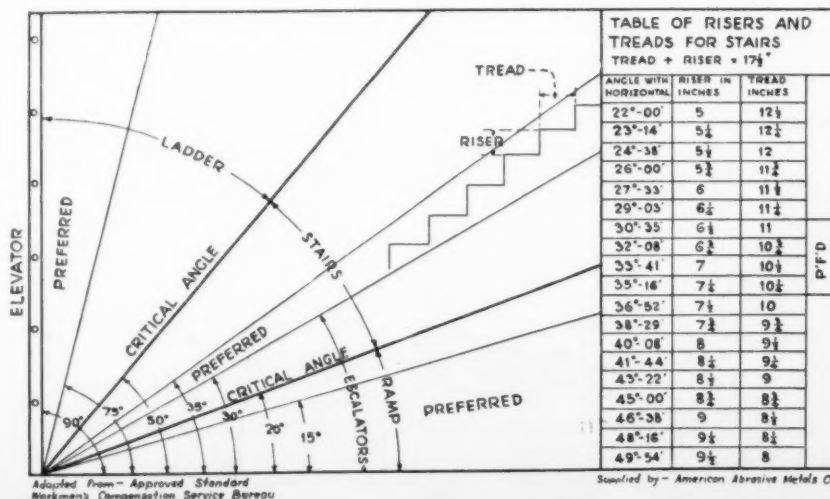


Van Anda

ATTIC SPACE USED FOR BEDROOM. INSULATION SHOULD BE APPLIED TO WALLS AND CEILING. CROSS VENTILATION IS PROVIDED BY WINDOWS ON OPPOSITE WALLS.



DISAPPEARING STAIRWAY DESIGNED TO PROVIDE ACCESS TO ATTIC AND MADE TO FOLD INTO THE CEILING, OUT OF THE WAY. FLOOR OPENING 24" TO 30" WIDE; 48" TO 72" LONG, DEPENDING ON HEIGHT OF STAIRS. FLOOR-TO-FLOOR HEIGHTS VARY FROM 7'-10" TO 10'-0".



Adapted from—Approved Standard
Workmen's Compensation Service Bureau

Source by—American Abrasive Metals Co.

ATTIC

APPLY FIRESTOPPING BETWEEN STUDS AT FLOOR LINE.

Plaster on metal lath; apply mineral wool; asbestos fiber.

LAY FINISHED FLOORING.

Pine; hardwood; linoleum; canvas.

APPLY FINISH TO WALLS AND CEILING.

Wallboard; plaster; paint.

INSTALL DISAPPEARING STAIRWAY IN PLACE OF TRAPDOOR.

Floor opening 24" to 30" wide, 48" to 72" long, depending on height of stair.

INSULATE UNDER ROOF.

Insulation board; rock wool; rock felt; sprayed flake insulation; quilt insulation; cork; shredded wood or cement boards; aluminum foil.

FILL CRACKS AROUND CHIMNEYS.

See protection recommended by National Board of Fire Underwriters.

PARTITION-OFF EXTRA BEDROOM.

Plaster on metal lath; or use wallboard; gypsum plank.

ADD WINDOWS AND LOUVERS.

Adjustable type. Window area not less than 1/10 of floor area. Openings 1/2 of window area.

PROVIDE CROSS VENTILATION FOR SUMMER COOLING.

PROVIDE HEATING FACILITIES.

Connect with central plant, or install gas or electric heaters.

BUILD A PLAYROOM FOR CHILDREN.

Sound-insulate walls and ceiling; build shelves for playthings; lay resilient flooring; paint in gay colors.

SUBDIVIDE STORAGE SPACES TO INCREASE USE.

Adjustable shelving.

PARTITION-OFF A MAID'S ROOM.

FIX UP A STUDY.

CONSIDER DESIRABILITY OF SLEEPING BUNKS.

TABLE TO SERVE AS GUIDE IN DETERMINING SAFE AND DESIRABLE SLOPE FOR STAIRS, RAMPS, LADDERS: STAIRS, 6½" RISER WITH 11" TREAD; 6¾" RISER WITH 10¾" TREAD; 7" RISER WITH 10½" TREAD, AND 7¼" RISER WITH 10¼" TREAD ARE PREFERRED.

HEATING AND VENTILATION

REPAIR OR REPLACE BOILER WITH MORE EFFICIENT TYPE.

New features are: flush, enameled casing; automatic damper; fuel economy; well insulated jacket; fuel capacity; convenient clean-out.

INSULATE BOILER

with asbestos-cement coats; magnesia blocks; asbestos felt.

REPAIR INSULATION OF HEATING PIPES.

Corrugated asbestos paper; magnesia blocks; asbestos felt.

FIREPROOF WALLS AND CEILING OF HEATER ROOM.

Asbestos cement board; sheet steel; stucco on metal lath.

CHECK JOINTS AND DRAFT CONTROLS OF SMOKE PIPE.

Automatic damper. Insulate smoke pipe with magnesia blocks.

INSTALL AUTOMATIC DRAFT CONTROL, LOW WATER ALARMS, STEAM PRESSURE METERS.

ADD NEW RADIATORS OR REARRANGE OLD ONES.

Estimate separately the amount of radiation for each room with consideration of exposure, wall insulation, window area.

REPLACE DEFECTIVE VALVES.

Automatic and adjustable.

RE-PACK STEAM VALVES AND INJECTORS.

INSTALL THERMOSTATIC CONTROL.

Thermostatic traps; electric control; clock thermostat; centralized or individual radiator control.

INSTALL AUTOMATIC FEED SYSTEM OR OIL BURNER.

High capacity of feed system, reliable. Silent oil burner; perfect combustion; gas or electric ignition.

INCREASE EFFICIENCY OF RADIATORS BY PROPER PAINTING.

Thin coats; dark shades; flat finishes.

CONVERT RADIATING HEATING INTO CONVECTION SYSTEM WITH BUILT-IN CABINETS.

INSTALL HOT WATER HEATING SYSTEM, COAL, GAS OR ELECTRIC.

Silent, automatic type. Rustproof tank.

ATTACH INDIRECT HEATER TO STEAM BOILER FOR HOT WATER SUPPLY.

INSULATE HOT WATER TANK.

Asbestos felt, with canvas jacket.

PROVIDE BUILT-IN ELECTRIC HEATER IN BATHROOM.

Chromium-plated reflector, adjustable heating units 9" x 9", and 13" x 13", 4" deep.

HEAT THE GARAGE.

Unit heater; gas or steam radiator.

ADD FORCED CIRCULATION TO AN OLD WARM AIR SYSTEM.

Silent electric blower.

PROVIDE COOLING.

INSTALL INDEPENDENT OR CENTRAL AIR CONDITIONING.

BUILD IN ASH DUMPS IN FIREPLACES.

One lid or two lid types 5" x 8", 6" x 9", 6" x 15", 5" x 7", 7" x 10".

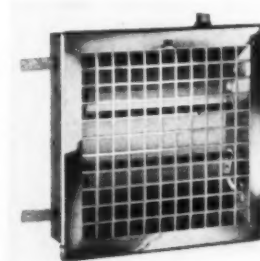
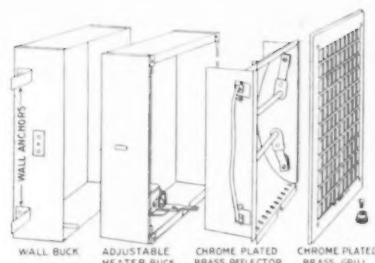
IMPROVE OLD TYPE FIREPLACES WITH DRAFT CONTROLS OR READY-BUILT LINING.

Steel damper with easy control. Length, 24" to 48"; width, 10" to 14". Complete copper bearing steel lining, joints welded, including draft controls, fire-box and smoke chamber.

OVERHAUL VACUUM SYSTEM.

ELIMINATE TRAPS IN STEAM LINES.

INSTALL AUTOMATIC SPRINKLER SYSTEM FOR BASEMENT AND STOREROOMS.



RECESSED ELECTRIC BATHROOM HEATER WITH CHROMIUM-PLATED REFLECTOR AND ADJUSTABLE HEATING UNITS. SIZES, 9" x 9" AND 13" x 13", 4" DEEP.

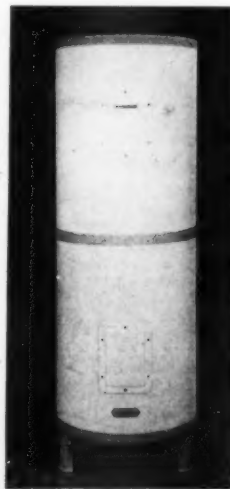
RULES FOR SAFE CHIMNEY CONSTRUCTION.

Where the wall forming a smoke flue is made up of less than 8 in. thickness of brick, concrete or stone, a burnt clay flue tile lining should be used. Cement mortar should be used for the entire chimney. No plaster lining should be permitted.

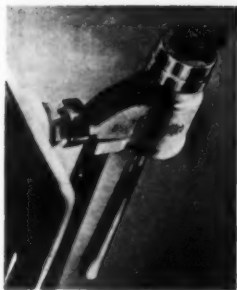
Chimneys should extend at least 3 feet above flat roofs and 2 feet above the ridges of peak roofs. The chimney should be properly capped with terra cotta, concrete, cast iron or other approved material; but no such cap shall decrease the flue area.

There shall be but one connection to the flue to which the boiler or furnace smoke pipe is attached. The boiler or furnace pipe shall be thoroughly grouted into the chimney and shall not project beyond the inner surface of the flue lining. Be sure that clean-out door below pipe entrance is airtight.

A chimney should be at least 35 ft. in height for satisfactory operation. For chimneys not less than 35 ft. in height above grade line, the net internal dimensions of lining should be at least 7 x 11½ in. See local heating engineer for correct flue size for specific heating requirements. (From recommendations of National Board of Fire Underwriters.)



ELECTRIC HOT WATER HEATER WITH AUTOMATIC TEMPERATURE REGULATION. THE TANK IS INSULATED AND COVERED WITH AN OUTER CASING FINISHED IN ENAMEL.



AUTOMATIC VALVE FOR STEAM RADIATORS. PROVIDES INDIVIDUAL ROOM TEMPERATURE CONTROL BY SELF-CONTAINED THERMOSTATIC UNIT MODULATING THE FLOW OF STEAM.

KEEPING HEATER IN CONDITION.

Care of the boiler is often neglected and it should receive special attention at a time when the house is modernized. The following recommendations are from the American Society of Heating and Ventilating Engineers Guide, 1934, pp. 345, 346:

"Heating boilers are often seriously damaged during summer months due chiefly to corrosion resulting from the combination of sulphur from the fuel with the moisture in the cellar air. At the end of the heating season the following precautions should be taken:

1. All heating surfaces should be cleaned thoroughly of soot, ash and residue, and the heating surfaces of steel boilers should be given a coating of lubricating oil on the fire side.
2. All machined surfaces should be coated with oil or grease.
3. Connections to the chimney should be cleaned and in case of small boilers the pipe should be placed in a dry location after cleaning.
4. If there is much moisture in the boiler room, it is desirable to drain the boiler to prevent atmospheric condensation on the heating surfaces of the boiler when they are below the dew-point temperature. Due to the hazard of some one inadvertently building a fire in a dry boiler, however, it is safer to keep the boiler filled with water. A hot water system usually is left filled to the expansion tank.
5. The grates and ashpit should be cleaned.
6. Clean and repack the gage glass if necessary.
7. Remove any rust or other deposit from exposed surfaces by scraping with a wire brush or sandpaper. After boiler is thoroughly cleaned apply a coat of preservative paint where required to external parts normally painted.
8. Inspect all accessories of the boiler carefully to see that they are in good working order. In this connection, oil all door hinges, damper bearings and regulator parts."

INSPECT ALL HEATING PIPES TO REDUCE HEAT LOSS TO AN ECONOMICAL MINIMUM.

Pipe insulation is also used to reduce the absorption of heat by cold pipes as well as to prevent condensation on the outer surfaces.

"Very often, even where pipes are thoroughly insulated, flanges and fittings are left bare due to the belief that the losses from these parts are not large. However, the fact that a pair of 9 in. standard flanges having an area of 3.00 sq. ft. would lose, at 110 lb. steam pressure, an amount of heat equivalent to more than a ton of coal per year shows the necessity for insulating such surfaces."

PROVIDE HUMIDIFICATION.

Just what the optimum range of humidity is, is a matter of conjecture. There seems to exist a general opinion, supported by some experimental data, that warm, dry

air is less pleasant than air of a moderate humidity, and that it dries up the mucous membranes in such a way as to increase susceptibility to colds and other respiratory disorders.*

CONSIDER USE OF GAS FOR HEATING.

The increased use of gas for house heating purposes has stimulated production of a large number of different types of gas-heating systems and appliances, including the following:

- Steam, hot water and vapor boilers.
- Warm air furnaces.
- Warm air floor furnaces.
- Garage heaters.
- Space heaters.

INSTALL OIL BURNER IN OLD COAL-BURNING FURNACE.

The oil burner may be installed as a heating unit in a boiler designed for coal fuel. Increased efficiencies, however, of 5 per cent to 15 per cent are often obtainable with boilers designed especially for liquid fuel.*

CHECK AIR SUPPLY FOR OIL BURNER.

"It is essential that the basement, or at least that portion used as a boiler room, be open to the outside air, in order that sufficient air be available for combustion. Frequently a case of poor (oil burner) operation will be found where a test with the draft gage made by inserting the tube through the keyhole of the outer door will show that there is a partial vacuum in the basement when the burner is running, all of the combustion air coming through the keyhole and minute cracks." A simple remedy is to cut an inch from the bottom of the outer door.

USE WINDOWS FOR VENTILATION.

Windows offer an advantage of transmitting light, as well as providing ventilating area when open. Air movement can be greatly accelerated by the supplementary use of a fan.

In the design of windows ventilating a house, where the direction of the wind is quite constant and dependable, the orientation of the dwelling together with the amount and grouping of such windows can be readily arranged to take full advantage of the force of the wind. Where wind is quite variable then windows for ventilation should be arranged on side walls so that there will be approximately equal areas on all sides. In general glass heat loss is 4 to 5 times that of an ordinary wall.

DOUBLE GLAZED WINDOWS TO CUT DOWN HEAT LOSS.

Double glazing reduces heat loss to about half.

PROVIDE AWNINGS FOR WINDOWS WITH SOUTH AND WEST EXPOSURE.

Some recent tests indicated that sunshine through window glass is the most important factor to contend with in keeping a room cool in summer. If a house is provided with awnings so that the window glass is shielded from sunshine, the amount of cooling required will be greatly reduced.

PLASTER OR PAINT WALLS TO REDUCE AIR LEAKAGE.

Tests by the A. S. H. V. E. indicate that plastering over an 8" brick wall reduces air leakage through wall by about 96 per cent; a heavy coat of cold water paint, 50 per cent; and 3 coats of oil paint carefully applied, 28 per cent.

*1934 Guide, The American Society of Heating and Ventilating Engineers.

GENERAL EXTERIOR WORK

REPAIR CRACKS AND OPEN JOINTS IN MASONRY WALLS.

CLEAN EFFLORESCENCE OR SCUM ON WALLS WITH ACID OR GIVE SPECIAL TREATMENT.

REMOVE EFFLORESCENCE ON BRICKWORK.

Efflorescence (a whitening of brick surface) can be removed by sponge washing the brick surface with a solution composed of three pounds zinc sulphate to a gallon of water.

DAMP-PROOF LEAKY WALLS.

Cement coating with hardener, colorless damp-proofing liquid, waterproof paint.

REPLACE WALL SURFACES WITH NEWER OR MORE ATTRACTIVE MATERIALS.

REFLASH WINDOW CAPS OR CAULK JOINTS.

REPAIR OR REPLACE ROOFING WITH MORE DURABLE MATERIALS.

Fireproof shingles; wood shingles; terra cotta tile; slate; copper or other metal.

CHECK SKYLIGHTS FOR REFLASHING, REPAINTING, GLAZING.

APPLY SNOW GUARDS TO PITCHED ROOF SURFACES.

Copper or galvanized steel brackets with rods.

CONNECT DOWNSPOUTS TO DRAINAGE SYSTEM OR TO DRY WELL.

CHECK FOUNDATIONS, FRAME, FLOORING, COLUMNS AND ROOF OF PORCHES.

Need for floor paint or general repainting.

REPAIR OR LENGTHEN CHIMNEY IF NECESSARY.

SCREEN PORCHES.

PROVIDE PORCH AWNINGS.

ADD VENETIAN BLINDS OR BAMBOO SCREENS ON PORCHES.

BUILD SHELTER OVER THE FRONT OR REAR DOOR.

REPAIR AND REPAINT LOOSE OR SHABBY BALCONIES AND RAILINGS.

BUILD COVERED WAY TO GARAGE.

IMPROVE GARBAGE DISPOSAL.

"Proper provision should be made for the storing and disposal of garbage, rubbish, ashes, and other household refuse. These should be kept in covered, fireproof, waterproof, rustproof containers of ample capacity, so placed and maintained that they will not interfere with the healthfulness, appearance, or attractiveness of the premises."*

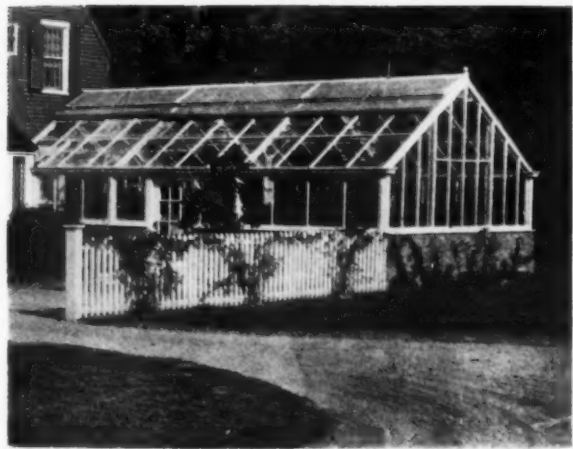
Portable steel or built-in brick incinerator. Gas drier; odorless and complete combustion.

PAINT OLD SCREENS.

Use special screen brush and paint.

REPLACE RUSTED SCREENING WITH NEW ONE.

Wire to be of copper, aluminum, chromium alloys.



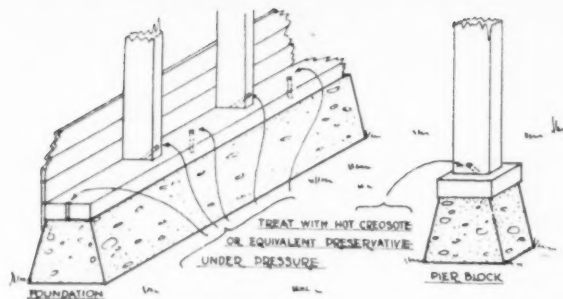
INSTALL GREENHOUSE ATTACHED TO HOUSE AND IN GARDEN LOCATION. PRICES FOR MATERIALS AND INSTALLATION ARE FROM \$220 UP.



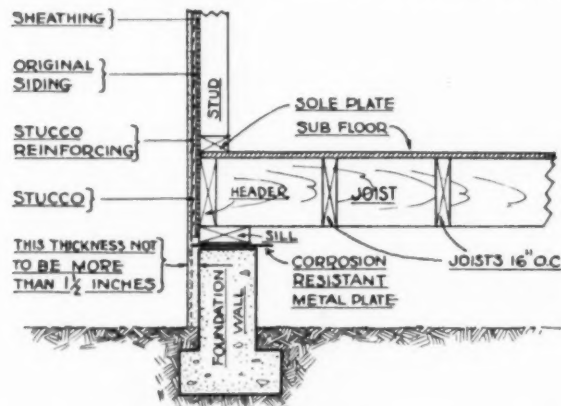
A GARDEN TERRACE CAN BE GIVEN AN OUTDOOR LIVING ROOM CHARACTER BY CULTIVATING SHADE FROM TREES AND VINES AND WITH USE OF LIGHT GARDEN FURNITURE. THE OPEN BEAMS DO NOT PRODUCE MUCH SHADOW DURING THE WINTER MONTHS WHEN SUNSHINE IS DESIRABLE.



THE APPROACH TO THE HOUSE CAN BE ENHANCED BY THOUGHTFUL PLANTING AND ARRANGEMENT, UTILIZING LOCAL STONE AND PLANT MATERIAL AND AT MODERATE COST.



CREOSOTE IS MOST EFFECTIVELY USED AS A PALLIATIVE AGAINST THE SUBTERRANEAN TERMITE AT THE JOINING SURFACES OF WOOD ON WOOD OR WOOD ON CONCRETE.



METHOD OF PLACING STUCCO OVER SIDING ON AND NEAR FOUNDATION WALL. NOTE CORROSION-RESISTANT METAL PLATE.

INSTALL SHOE SCRAPER.

PROVIDE STORAGE SPACE

for garden furniture, screens, storm windows, baby carriages, bicycles, sleds, garden tools, etc.

INSTALL POLES FOR DRYING CLOTHES.

"If outdoor space for drying clothes is provided, it should be screened so that the neighborhood will not be rendered unattractive. Vine-covered lattices and hedges usually make the most satisfactory screens."*

ADD GARDEN FURNITURE AND EXERCISE EQUIPMENT.

PROVIDE PLAYGROUND SPACE FOR CHILDREN.

"Suitable play space should be provided in the yards to supplement neighborhood resources and should be so located that the play activities of small children can be observed easily by the mother while engaged in her daily routine."*

REARRANGE PLANTING TO GIVE PRIVACY BUT LET THE SUN REACH GROUND AND HOUSE.

"Trees, shrubs, and vines should be planted in such a manner that they provide an attractive setting and furnish shade and privacy."*

INSPECT GROUNDS FOR ELIMINATION OF MOSQUITO BREEDING PLACES.

They breed in stagnant water as found in old tin cans, undrained roof gutters, ponds. Gold and silver fish destroy mosquito larvae in small ponds. Low-grade kerosene or gas-oil is best for treating places that cannot be drained. One ounce of kerosene for 15 square feet of surface.

REPAVE DRIVEWAY AND WALKS.

TERMITES and REPAIR OF TERMITE DAMAGE

REPLACE WOOD TIMBERS DAMAGED BY TERMITES.

APPLY APPROVED METHODS FOR CONTROL OF TERMITES.

The following information is extracted from "Termites and Termite Damage," Circular 318, College of Agriculture, University of California. This bulletin should be consulted for reliable guidance.

"Damage by termites to wood in contact with the ground constitutes a major part of the termite problem. The use of termite-resistant or treated woods in such situations will afford some degree of protection.

"In the case of alteration and repair, remove stumps, roots, scraps, refuse and refuse wood of all description in neighborhood of house. All wooden forms on foundations and chimney bases should be removed.

"In repair work remove all wood in contact with ground that has been attacked by termites. Remove all wood that is structurally unsafe. If subterranean termites are shut off from a source of moisture supply, they will soon die.

"Destroy by fire all removed wood containing termites.

"Provide adequate ventilation under the first floor. At least 2 feet of openings for each 25 lineal feet of exterior foundation wall is recommended. Where there are spaces under floors near the ground they should be excavated so that there will be no soil within 24 inches of the joists. Cross ventilation should be provided.

TREATED LUMBER.

"For timber in contact with the ground the most effective chemical preservative treatments are pressure impregnations with coal-tar creosote. For timber not in contact with the ground pressure impregnation with zinc chloride has proved effective where not subjected to leaching. These latter methods are the treatments recommended by the American Wood-Preservers' Association. Painting surfaces and short time dipping is not effective.

"The use of corrosion-resistant metal plates is recommended as a barrier between foundation walls and wood sills (sixteen-ounce hard copper is recommended).

"Fifteen-gauge zinc has also been recommended. Galvanized iron may be used but will not stand up over a long period.

"Where ground treatment is considered essential, consider U. S. Government Bulletin, Department of Agriculture. It is seldom essential to apply this remedy.

"Subterranean termites often use cracks in brick and masonry foundations as runways. A common method of treatment is to inject a generous amount of hot creosote. This material should be injected between the surfaces of the foundation and the infested sill, and between the surfaces of sill and studding.

*The Home and The Child. The Century Co., N. Y.

A REMODELED HOUSE

BY M. R. JOHNKE, ARCHITECT

EXTENT OF REMODELING—ADDITION OF WING FOR GUEST ROOM WITH BATH AND MAID'S ROOM WITH BATH. OLD KITCHEN ALTERED INTO BREAKFAST ROOM. NEW AND LARGER KITCHEN ADDED TO REAR. DINING ROOM AND LIVING ROOM WERE ENLARGED; SIZE OF MASTER BED ROOM ENLARGED. RECREATION ROOM PROVIDED IN CELLAR.



← **GROUND FLOOR PLAN AFTER ALTERATION.**

BEFORE ALTERATION.



SECOND FLOOR PLAN AFTER ALTERATION.

BEFORE ALTERATION.





Gustave Anderson
AFTER ALTERATION.

HOUSE FOR H. P. KOCH, ROCKVILLE CENTRE, LONG ISLAND.
M. R. JOHNKE, ARCHITECT.

OLD PORTION OF BUILDING, BRICK VENEER. PORCH ALTERED—SHINGLES AND NARROW CLAPBOARD; WHITE PINE TRIM; BLACK SLATE ROOF; COPPER LEADERS AND GUTTERS. INTERIOR TRIM OF WHITE PINE, HARD FINISH PLASTER. RECREATION ROOM, PLASTER CEILING AND WALLS. TILED KITCHEN AND BATHS. NEW STRIP FLOORING OF RED OAK SELECTED. NEW CAST IRON BOILER FOR HEATING. ALL OTHER HEATING AND PLUMBING WORK WAS CONNECTED UP WITH PRESENT SYSTEM WHICH DID NOT NEED CHANGING. ALL PIPING, COPPER. NEW RADIATORS WERE OF FREESTANDING TYPE. COLOR SCHEME: GENERALLY CREAM WHITE; BLINDS, DEEP GREEN IN COLOR. GARAGE ALTERED TO MATCH.



HOUSE BEFORE ALTERATION, PHOTOGRAPHED FROM SAME ANGLE AS ABOVE.

GARAGE

BUILD IN A BASEMENT GARAGE.

ATTACH GARAGE TO HOUSE ON GROUND FLOOR.

CONVERT SHED OR BARN INTO GARAGE.

INSULATE OLD GARAGE SHED.

LAY CONCRETE FLOOR.

INSTALL FLOOR DRAIN.

Oil and gas separator.

BUILD GREASING PIT.

PROVIDE NEW DOOR.

Overhead, folding, sliding.

INCREASE DAYLIGHTING.

Additional windows, glass door panels.

INSTALL HEATING EQUIPMENT.

REARRANGE OR REBUILD GARAGE FOR TWO CARS.

APPLY FIRE PROTECTION TO WALLS AND CEILING.

INCREASE ENTRANCE SIZE FOR BETTER ACCESS.

REPLAN ACCESS FOR MORE EASE.

INSTALL ELECTRIC LIGHT.

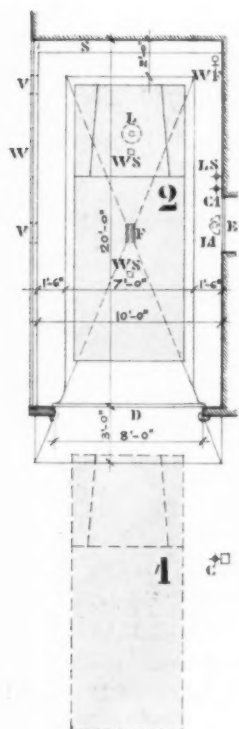
Over engine.

PROVIDE WATER OUTLET AND BASIN.

BUILD IN STORAGE SHELVES OR CLOSET.

ADD A WORK BENCH.

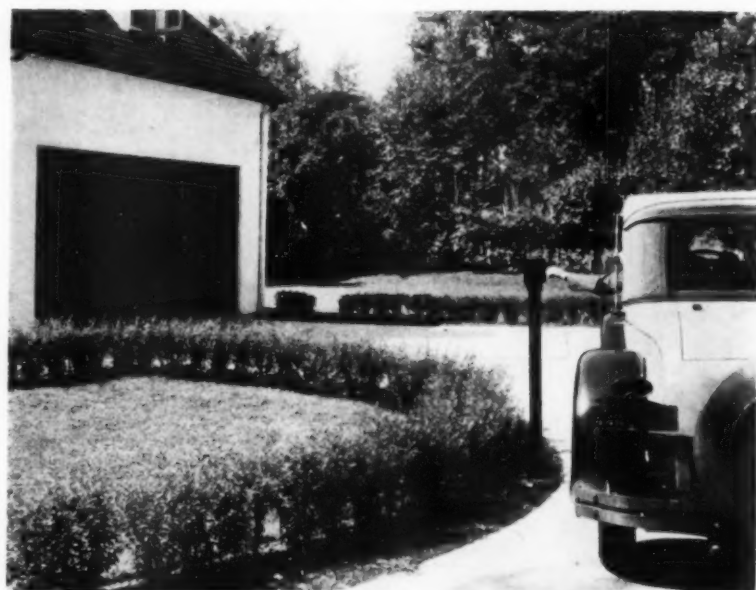
PLAN LOCATION OF GARAGE NEAR STREET FOR SHORT DRIVE REQUIRING MINIMUM PAVING.



TYPICAL GARAGE LAYOUT FOR ONE CAR WITH ESSENTIAL DIMENSIONS AND ACCOMMODATIONS.

KEY TO INDICATION ON PLAN

- 1 Car shown on plan before entering garage in position to operate control switch C.
- 2 Car inside garage.
- C Control switch operated by driver to open, close and lock garage doors without leaving car.
- Cl Control switch for same purpose inside garage.
- D Garage doors (overhead).
- E Entrance door to house (metal clad).
- F Floor drain at center of garage.
- L Ceiling reflector over engine.
- Li Light at house entrance, directed on running board.
- Ls Light switches.
- S Shelving for storage of supplies.
- V Vents near base of wall.
- W Windows hinged at bottom.
- Ws Sprinkler system for fire protection.



GARAGE DOOR OPENED AND CLOSED ELECTRICALLY BY INSERTION OF KEY IN POST.

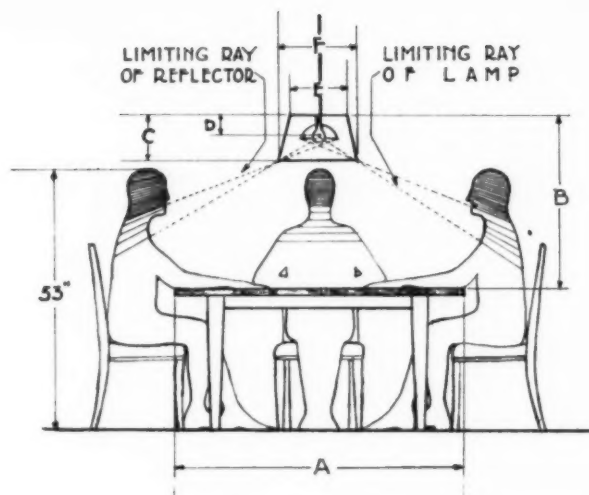
GARAGE DESIGN DATA

MOTOR CAR DIMENSIONS (1934)

MAKE	*(L)	*(W.B.)	*(F)	*(R)	*(W)	*(H)	*(C)	*(T)	*(T.D.)
Willys (77)	13'-0"	100"	22 1/2"	33 1/2"	5'-0"	5'-4"	10 1/2"	...	36'-0"
Ford (V-8)	14'-10"	112"	25"	41"	5'-7"	5'-8"	11"	4'-8 1/2"	46'-0"
Chevrolet	14'-10 1/4"	112"	25 3/4"	40 1/2"	5'-9 1/2"	5'-7 1/2"	11 1/4"	4'-9 1/2"	43'-0"
Plymouth	15'-1 1/2"	114"	27 1/2"	46"	5'-7 1/2"	5'-8 1/4"	11"	4'-8 1/2"	...
Pontiac	15'-7 1/4"	117 1/4"	27"	43"	5'-10"	5'-8 1/2"	13"	4'-8 1/2"	45'-4"
Oldsmobile (6)	15'-9 1/2"	114"	28 1/4"	47 1/4"	5'-10 1/4"	5'-7 1/4"	11"	4'-10"	38'-0"
Dodge	15'-10"	117"	25 1/2"	47 1/2"	5'-7 1/2"	5'-8 1/2"	11 1/2"	4'-8 1/2"	...
Chrysler (6)	16'-0 3/4"	117"	27 3/4"	48"	5'-7 1/2"	5'-8 1/2"	11 1/4"	4'-9"	...
Studebaker (6)	16'-3 1/2"	114"	28"	53 1/2"	6'-2"	5'-8"	9 3/4"	5'-0"	42'-0"
De Soto (AF)	16'-4"	115 1/2"	34 1/4"	46 1/4"	5'-10 1/4"	5'-8"	11"	4'-9"	...
Buick	16'-4 1/4"	119"	28 1/4"	49"	6'-3"	5'-9 1/2"	12"	5'-0 1/2"	44'-0"
Nash	16'-7"	116 1/4"	29"	53 3/4"	5'-11"	5'-7 1/2"	9 1/2"	5'-0"	46'-0"
Packard	16'-10 1/2"	129 1/4"	28 1/4"	45"	5'-11 1/4"	5'-10 1/2"	9 1/4"	4'-11 1/2"	41'-6"

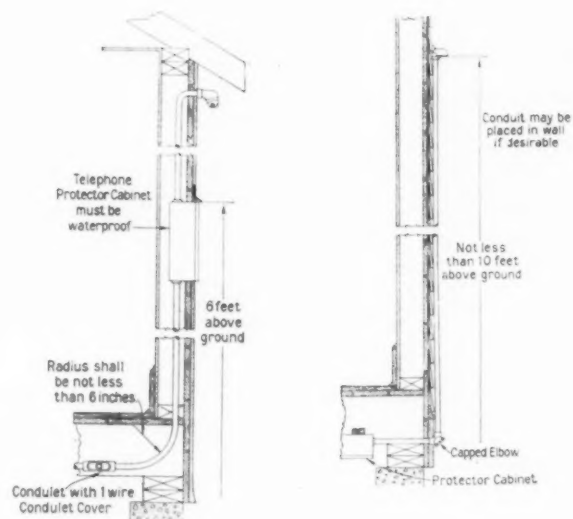
Courtesy: Ramp Buildings Corporation, New York City.

*NOTE: Information supplied by Automobile Manufacturers. (L) length; (W.B.) wheel base; (F) distance from center of front hub cap to front extremity; (R) distance from center of rear hub cap to rear extremity; (W) width; (H) height; (C) distance from ground to underside of running board; (T) tire tread; (T.D.) turning diameter (diameter of smallest walled-in circle in which the car will make a complete turn).



DIMENSIONAL DATA FOR DINING TABLE LIGHTING,
SHOWING HEIGHT OF LIGHTING UNIT AND SHADE
DIMENSIONS.

TABLE LENGTH	HEIGHT FROM TABLE TO TOP OF UNIT	SHADE DIMENSIONS				
A	B	C	D	E	F	
4'-6"	2'-9"	8"	4 3/4"	10"	14"	
5'-0"	2'-11"	9"	5"	12"	16"	
5'-6"	3'-1"	10"	5 3/8"	14"	18"	
6'-0"	3'-3"	12"	6"	16"	20"	
6'-6"	3'-3"	12"	6"	16"	20"	



**DETAILS OF APPROVED METHODS
FOR INSTALLING CONDUITS FOR
ENTRY OF TELEPHONE WIRES,
WITHOUT AND WITH BASE-
MENT. TELEPHONE SERVICE
CONDUIT WITH PROTECTOR
CABINET IN BASEMENT. FOR
THE AVERAGE RESIDENCE TELE-
PHONE SERVICE THE FOLLOW-
ING CONDUITS ARE SATISFAC-
TORY: 1/2" PIPE FOR 2-3 WIRES;
3/4" PIPE FOR 4-8 WIRES; 1"
PIPE FOR 8-12 WIRES.**

LIGHT and POWER

Information supplied by

HENRY L. LOGAN, Consulting Electrical Engineer

REWIRE WITH MODERN SYSTEM TO REDUCE FIRE HAZARD.

Conduit: Use either non-metallic sheathed cable, armored cable or rigid metal pipe.

RECOMMENDED WIRE SIZES.

Branch Circuit Wire Sizes Required to Restrict Voltage Loss to 2 Volts (Two Wire, 115 Volt Circuits).

LENGTH OF CIRCUIT IN FEET	WATTS PER CIRCUIT					
	750	1000	1500	1725	2000	3000
	AMPERES PER CIRCUIT					
	6.1	8.7	13.1	15.0*	17.4	26.1
20	14	14	14	14	14	12
30	14	14	14	12	12	10
50	14	12	10	10	10	8
100	10	10	8	8	6	4
150	10	8	6	6	4	4
200	8	6	4	4	4	2

* Fifteen amperes is the allowable current capacity as set forth in the National Electric Code.

Switches: Standard toggle switches for ordinary locations. Mercury switches for locations requiring silence. Safety switch on lighting panel. Safety switch on power panel. Safety master switch. Weather-proof switches in exposed locations.

Circuits: Separate circuits for convenience outlets, lights and power devices. One circuit for oil burner. One circuit for air conditioning apparatus. Heavy duty appliance circuit for electric range. Separate power circuit for radio. Separate concealed circuit for burglar alarm system.

INSULATE EXPOSED WIRES WHERE REQUIRED.

RENEW APPLIANCE CORDS.

CONVENIENCE OUTLETS—ALL DUPLEX.

PROVIDE SPECIAL OUTLETS FOR

Clocks.
Radio (aerial and ground connection).
Fans.
Ventilators.

PROVIDE PILOT LIGHTS ON SWITCH PLATES

of stationary silent devices and switches of lights not visible from the switch.

REPLACE OLD FIXTURES AND ADD NEW ONES.

Built-in flush ceiling lights for porch, vestibule, pantry, kitchen, laundry, bathroom, hall and game room. Semi-indirect or indirect for living room, library and bedrooms.

Flush ceiling light or suspended "dome" for dining room.

Refractor bracket lights for service entrance, driveway and garage entrance.

Reflectors for garage and boiler room.

PROVIDE NEW POWER LINE.

Consult local utility company for its requirements.

REPLACE BELL BATTERIES WITH BELL TRANSFORMER.

REPLACE OLD FUSE BOXES WITH CIRCUIT BREAKER PANELS. "Nofuze" panel installation. Cost, about \$4 per circuit.

LIGHT and POWER (Continued)**BUY NEW APPLIANCES. CHECK LIST BELOW.**

Bottle warmer for nursery.	Hair drier.
Clocks.	Humidifier.
Cooker.	Ironer.
Curling iron.	Mixer.
Coffee maker.	Sewing machine.
Dishwasher.	Sunlamp.
Electric refrigerator.	Toaster.
Electric towel drier.	Vacuum cleaner.
Egg cooker.	Vent fan.
Electric flat irons.	Waffle iron.
Floor waxer.	Washer.
Grill.	Water pump motor.
Heating pad.	

INSTALL WALL SWITCHES IN PLACE OF DROP CORDS.

Located on lock side of door, 4' from floor.

PROVIDE WIREWAY FOR TELEPHONE EXTENSIONS TO MASTER'S BEDROOM, KITCHEN AND GARAGE.**INSTALL BURGLAR SYSTEM.**

Types:

Visual: Manually operated by flexible extension switch under sleeper's pillow (recommended).

Auditory: Sounds alarm (gong) when circuit is broken by intruder.

EQUIP CLOSETS WITH DOOR SWITCHES.**BIBLIOGRAPHY**

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LIGHT APPROACH TO HOUSE.**INSTALL FIRE ALARM SYSTEM.****INSTALL ILLUMINATED HOUSE NUMBER.****PROVIDE LIGHTNING PROTECTION.**

Methods:

1. Plant trees with lightning sheds that will include buildings.
2. If building is lathed with metal, only additional precaution required is grounding of all plumbing and metal lath.
3. Lightning arrestors should meet specification of National Board of Fire Underwriters.

BUILD IN ELECTRIC BATHROOM HEATER.

Chromium-plated reflector, adjustable heating units. Sizes, 9" x 9"; 13" x 13"; 4" deep.

HALL LIGHT AND LIGHTS FOR CELLAR STAIRS.

Should be controlled by three-way switches at top and bottom of stairs.

REPAIR OR REPLACE DOOR BELLS AND BUZZERS.

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HEIGHTS, April, 1932, pp. 261-267.

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Article by Frederic Arden Pawley:

PLANNING THE HOUSE. A CHECK LIST OF REQUIRE-

MENTS, November, 1932, pp. 282-294.

Article by Howard T. Fisher:

THE COUNTRY HOUSE, November, 1930, pp. 363-385.

KITCHEN

21" to 24" wide, 22" to 30" long. Height of rim, 32" to 36" above floor.

21" to 24" wide, 41" to 52" long. Height of rim, 32" to 36" above floor.

21" to 27" wide, 21" to 30" long, 34" to 38" high.

23" to 27" wide, 40" to 48" long, 40" to 54" height over-all.

18" to 27" wide, 24" to 32" long, 48" to 60" high.

BATHROOM

18" to 30" long, 15" to 24" wide. Height of rim, 31" above floor.

24" to 36" long, 20" to 24" wide. Height of rim, 31" above floor.

30" to 36" wide, 54" to 72" long, 18" high.

Width over-all, 22" to 24". Projection from wall, 24" to 30".

32" x 32" to 42" x 42", 72" to 78" high.

KITCHEN SINK

KITCHEN SINK WITH DRAIN BOARD

RANGE (OVEN BELOW)

RANGE (OVEN AT SIDE)

REFRIGERATOR

LAVATORY (WALL TYPE)

LAVATORY (FREESTANDING, 2" OFF WALL)

BATHTUB

TOILET

SHOWER CABINET (METAL)





CHAIR

CHAIRS and TABLES

17" long, 16" wide. Height, 32" to 42" over-all. Seat, 18".

EASY CHAIR

30" x 30", 30" height over-all.

DAVENPORT

Length, 6' to 7'; width, 30" to 36"; height, 30".

BRIDGE TABLE WITH FOLDING LEGS

29" x 29", 2" thick; height, 27".

TABLE

34" to 40" wide, 4' long for 4 to 6 persons, 6' long for 6 to 8 persons, 29" high.

DINING TABLE

3' diameter, 4 persons; 4' diameter, 6 persons; 28" or 29" high.

DESK (OFFICE TYPE)

DESKS and PIANOS

4'-6" to 5'-0" long, 2'-10" wide; height, 30".

UPRIGHT PIANO

4'-10" to 5'-4 1/2" long, 2'-0" to 2'-2" wide; height, 3'-8" to 4'-5 1/2".

PIANO STOOL

14" diameter; height adjustable, 19" to 25".

GRAND PIANO

4'-10" to 5'-0" wide, 5'-10" to 7'-3" long; height, 3'-4".

BABY GRAND

4'-7" to 4'-10" wide, 4'-11" to 5'-8" long; height, 3'-3" or 3'-2".

LIVING ROOM and BEDROOM

Highest shelf reached from floor, 6'-6". Length of wood shelves, 2'-6" to 3'-6". Shelf height for common books, 8" to 12". Shelf depth for common books, 7" to 10". Bottom shelf for folios and large books, 20" to 24" high, 16" to 18" deep.

11'-3" x 15'-0", 11'-3" x 12'-0", 9'-0" x 15'-0", 10'-0" x 12'-0", 9'-0" x 12'-0", 8'-3" x 10'-6", 7'-6" x 9'-0", 6'-0" x 9'-0", 4'-6" x 6'-6". 9, 12, 15, 18, 21 feet are standard loom widths.

3' to 3'-3" wide, 6' to 6'-6" long.

14" to 17", square. Height, 29" to 30".

4' to 4'-6" wide, 6' to 6'-6" long.

CLOSETS

Hanging space for suits and overcoats. Hanging rod not more than 5'-10" above floor. Drawers for lesser garments, 3" to 4" high. Shelf for shoes, 8" high; shelf for hats, 9" high. Height for suits, 3'-3"; height for overcoats, 5'-0"; width for 8 suits, 22"; width for 4 overcoats, 12". Depth of closets, 20" to 24".

Hanging space for dresses and coats. Hanging rod not more than 5'-6" above floor. Drawers for lesser garments, 3" to 4" high, 12" wide. Shelves for shoes, 5" high; shelf for hats, 12" high. Height of hanging space, 5'-6"; width for 9 dresses, 27"; depth of closet, 20" to 24".

Stock sizes. Width, 1'-4" to 3'-0", every 2" intervals. Height, 3'-0", 3'-6", 4'-0", 4'-6", 5'-2".

BOOKSHELVES

CARPETS AND RUGS STANDARD SIZES

SINGLE BED

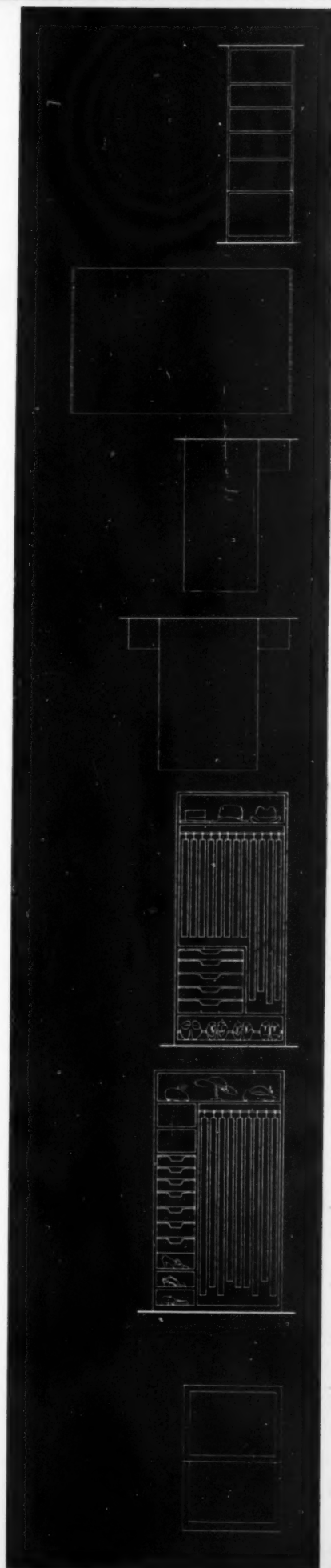
NIGHT STAND

DOUBLE BED

CLOTHES CLOSET FOR MEN

CLOTHES CLOSET FOR WOMEN

WINDOW (WOOD) DOUBLE-HUNG





"BASEMENT" STEEL WINDOWS
(OPENING IN)

"UTILITY" STEEL WINDOW (for
Garages, Basements, Sheds, etc.)

DOOR SIZES
(STANDARD STOCK SIZES)

LAUNDRY TRAY

LAUNDRY TRAYS

BABY CARRIAGE

BILLIARD TABLE

PING-PONG TABLE (FOLDING
IN CENTER, FOLDING LEGS)

PASSENGER
AUTOMOBILE

WINDOWS and DOORS

Sizes, 2 lights, 1'-11" x 2'-7³/₈";
3 lights, 1'-3" x 2'-9³/₄", 1'-11" x
2'-9³/₄", 1'-9" x 3'-3³/₄". Fits brick
or concrete construction.

Width, 3'-4¹/₂"; height, 3'-7¹/₂".
Fits concrete blocks. Upper half
opening in.

Width, 1'-6" to 3'-0", every 2"
intervals. Height, 6'-0", 6'-6";
6'-8" and 7'-0" (preferred). Thick-
ness, 1³/₈", 1³/₄".

MISCELLANEOUS

20" to 26" wide, 22" to 30" long.
Height of rim, 31" to 36" above
floor.

22" to 27" wide, 40" to 50" long.
Height of rim, 31" to 36" above
floor.

2' x 4' over-all. Height, 3' (top
down).

Nominal sizes, engl. table, 6' x 12';
standard tables, 5' x 10', 4¹/₂' x 9',
4' x 8'; junior tables, 3¹/₂' x 7', 3' x 6'.
Height, 2'-9¹/₂", 2'-10¹/₂".
Cues, 4'-6" to 4'-10" long.

5' x 9' (regulation size). Height,
30".

The following auto sizes for 1934
models are for a few selected cars.
For complete listing see table in
accompanying check list.

	Wide	Long
Ford	5'-7"	14'-10"
Chevrolet . . .	5'-9 ¹ / ₂ "	14'-10 ¹ / ₄ "
Plymouth . . .	5'-7 ¹ / ₂ "	15'-1 ¹ / ₂ "

MODERNIZATION

APARTMENT OF DR. FRITZ WITTELS, NEW YORK CITY

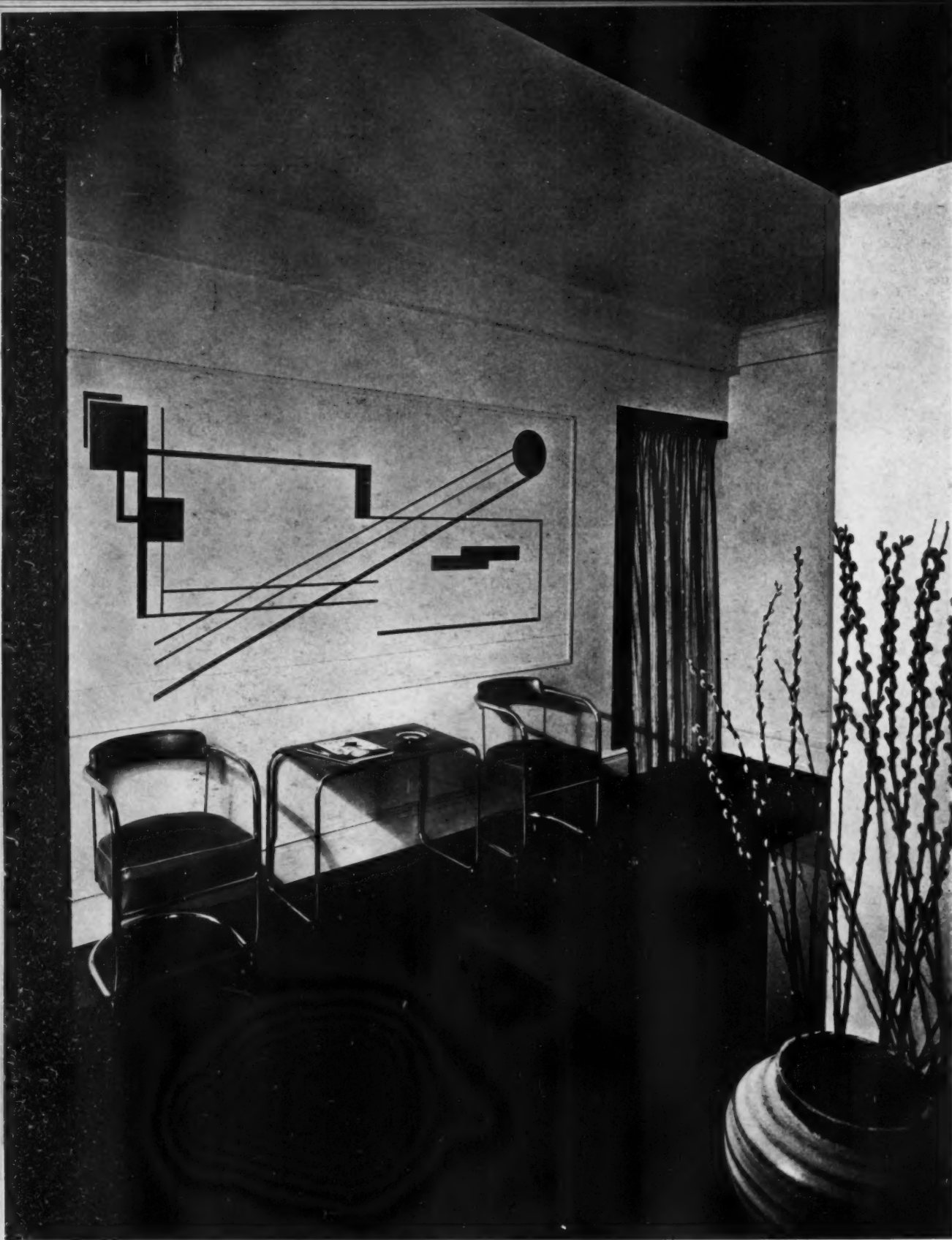
DESIGNED BY PAUL LESTER WIENER, DIRECTOR OF CONTEMPORA, INC., ARCHITECTS



Photograph by F. S. Lincoln

This apartment combines consultation office, study and laboratory of Dr. Wittels, a practicing psychoanalyst, with his personal living quarters. The interiors have been designed to provide proper background for the reception and treatment of patients. The colors have been selected for their psychological value in the treatment of patients.

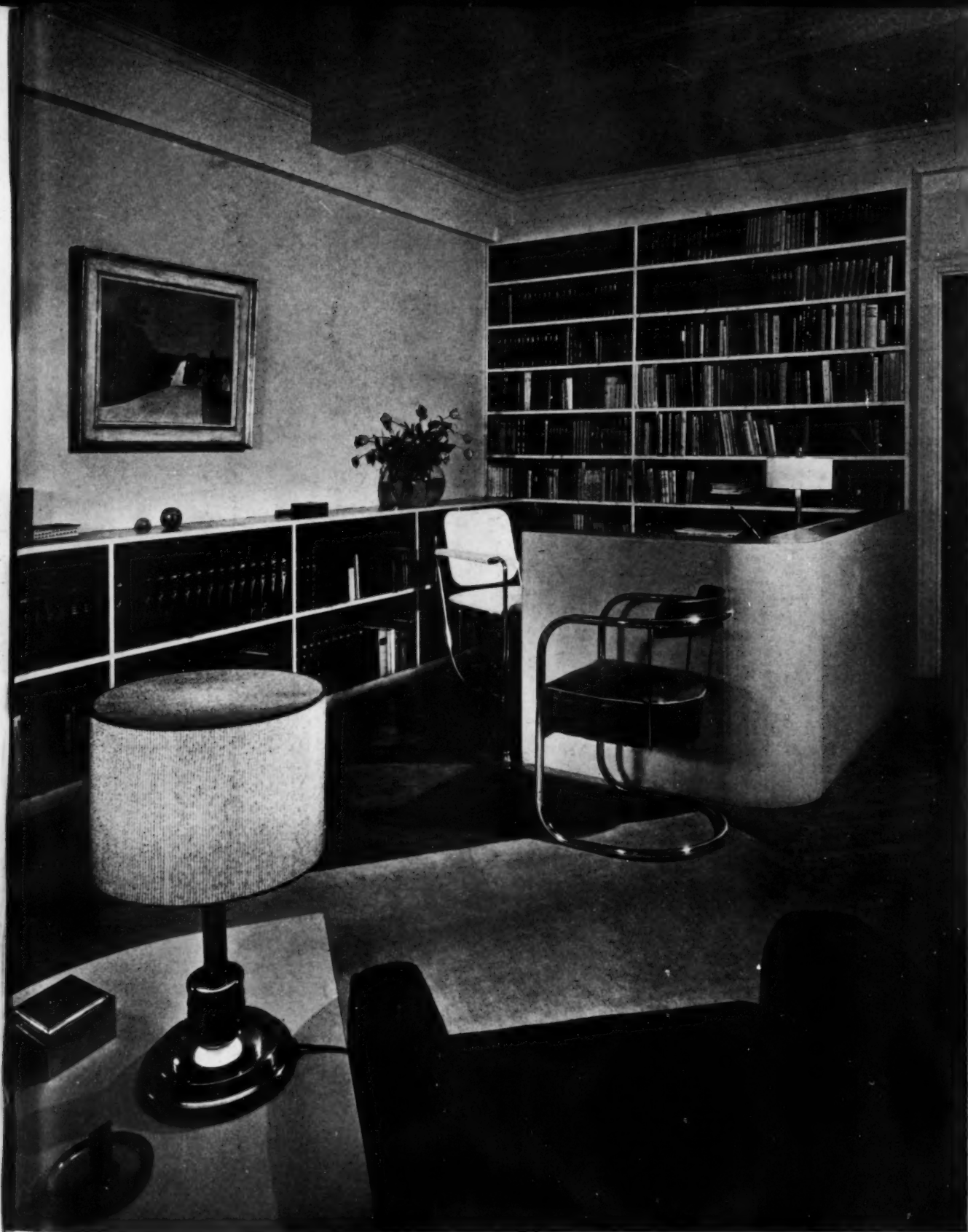
The illustration shows a low end table, one of a pair which flank the sides of a custom-built couch. Designed for the filing of art portfolios and magazines, this table, an adaptation of a Chinese design, also provides space for smoking accessories and the like. It is finished in off-white lacquer. The vase, designed by Vally Wieselthier, is glazed in blue, white and gray. The bronze, "Head of a Woman," is by Sonia Brown.



Photographs by F. S. Lincoln

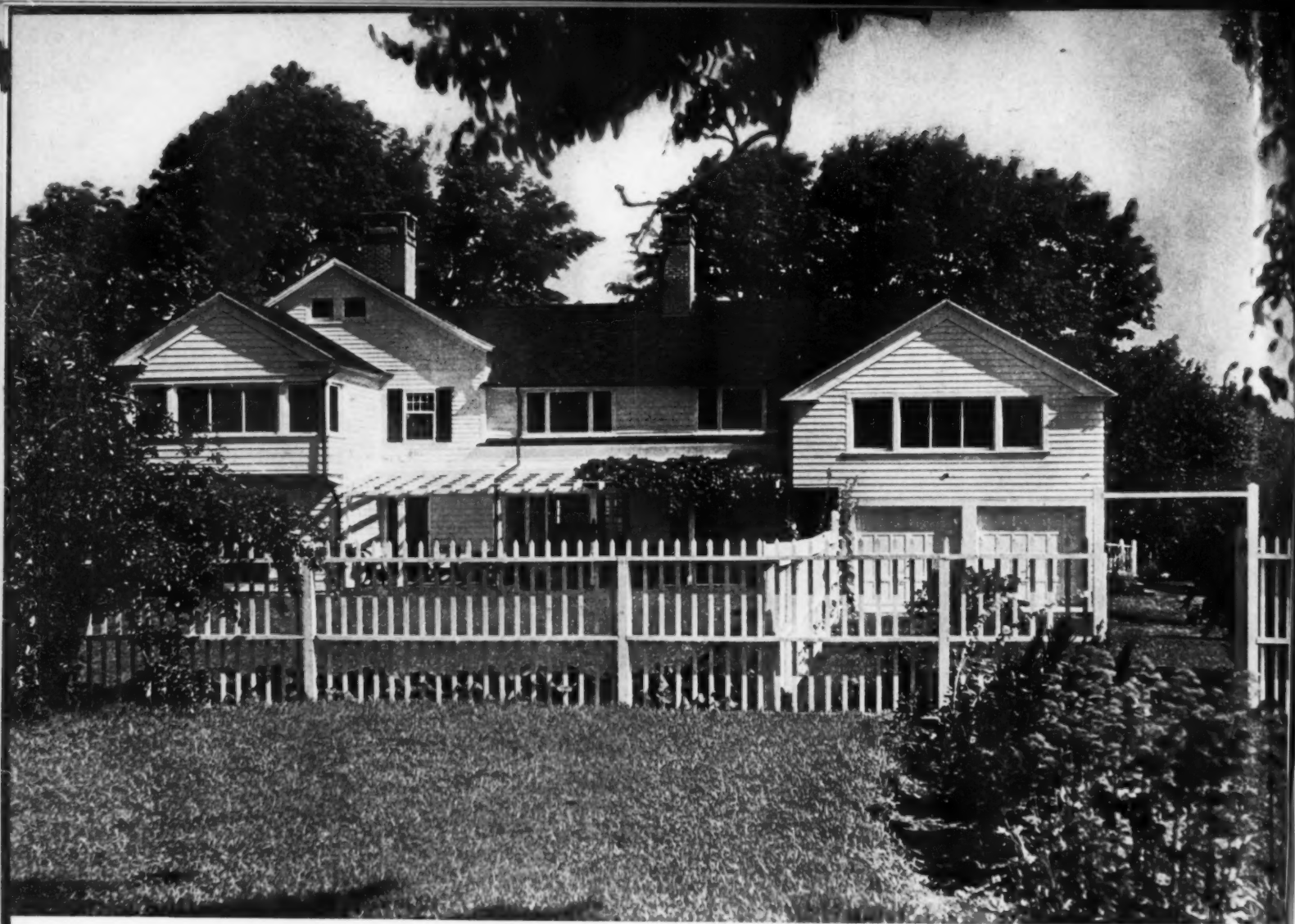
**APARTMENT OF
DR. FRITZ WITTELS
NEW YORK CITY**

FOYER: The abstract wall decoration with its red, white and blue design, is the keynote of the color harmony. The floor is covered with red and blue linoleum laid in geometric sections. The table is shiny tubular steel and blue bakelite. The steel chairs are upholstered with red leather trimmed in white. A horizontal strip of blue and a vertical strip of red frame the doorway which is curtained with a loosely-woven cotton thread fabric in gray, white, blue and red.



DESIGNED BY
PAUL LESTER WIENER

CONSULTATION OFFICE AND STUDY: The circle was used as the basic motif for the architectural design of this room. Two-thirds of the seamless round carpet is white, the other third brick red. The bookshelves are off-white and brick red. The shelves become an integral part of the desk, at the side wall. The chairs and table are also built on circular lines, counterbalanced by the curved frame of the desk, which is set into a frame of cork board. Color accents throughout the room are warm rust red.



Photographs by George H. Van Anda

REMODELED HOUSE OF EDWARD RAWSON
SKIFF MOUNTAIN, KENT, CONNECTICUT — ROGER H. BULLARD, ARCHITECT



House before remodeling.





HOUSE ON ESTATE OF HERBERT L. NICHOLS AT GREENWICH, CONN.
REMODELED FROM A COWBARN BY EDWARD MAINWARING-JOHNSON



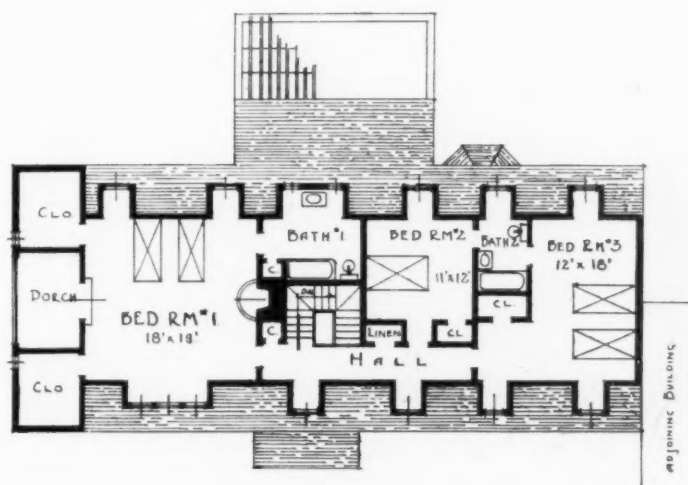
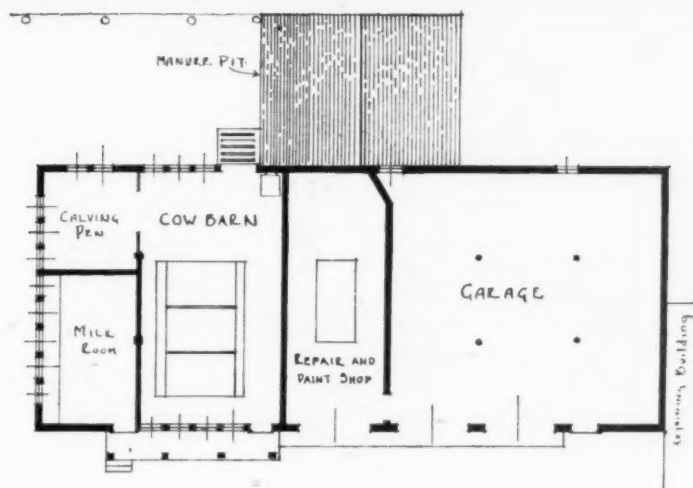
Above: West end before remodeling.

Right: South side after remodeling.



Right: Plan of old cowbarn.

Below: Remodeled plan.



General view
of living room.



Photographs by George H. Van Auda

REMODELED HOUSE OF DR. RALPH G. STILLMAN
KENT, CONNECTICUT

ALLAN McDOWELL, DESIGNER



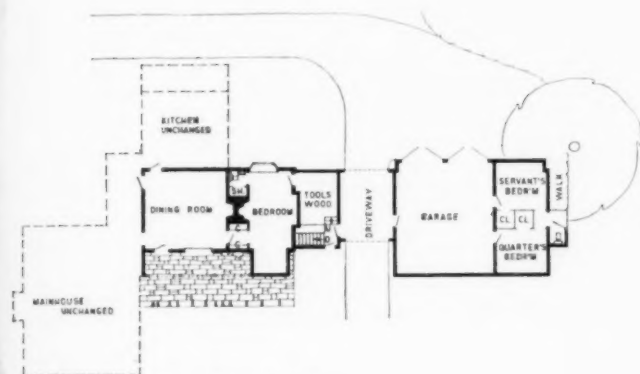
The wing of the old house (illustrated at left) was much too narrow for its height. Its overhanging roof was eliminated, the tall narrow chimney rebuilt to accommodate three fireplaces, and the fenestration changed, and a tool room and garage added to improve the south elevation and to give the house a greater width.

Materials: White clapboards and green blinds on main house, and vertical flush boards on garage; wood shingles on roof; plaster and wall paper in main house, and exposed studs in garage and servants' rooms.

Cost: Roughly \$3,500, including repairs on outbuildings and fences.

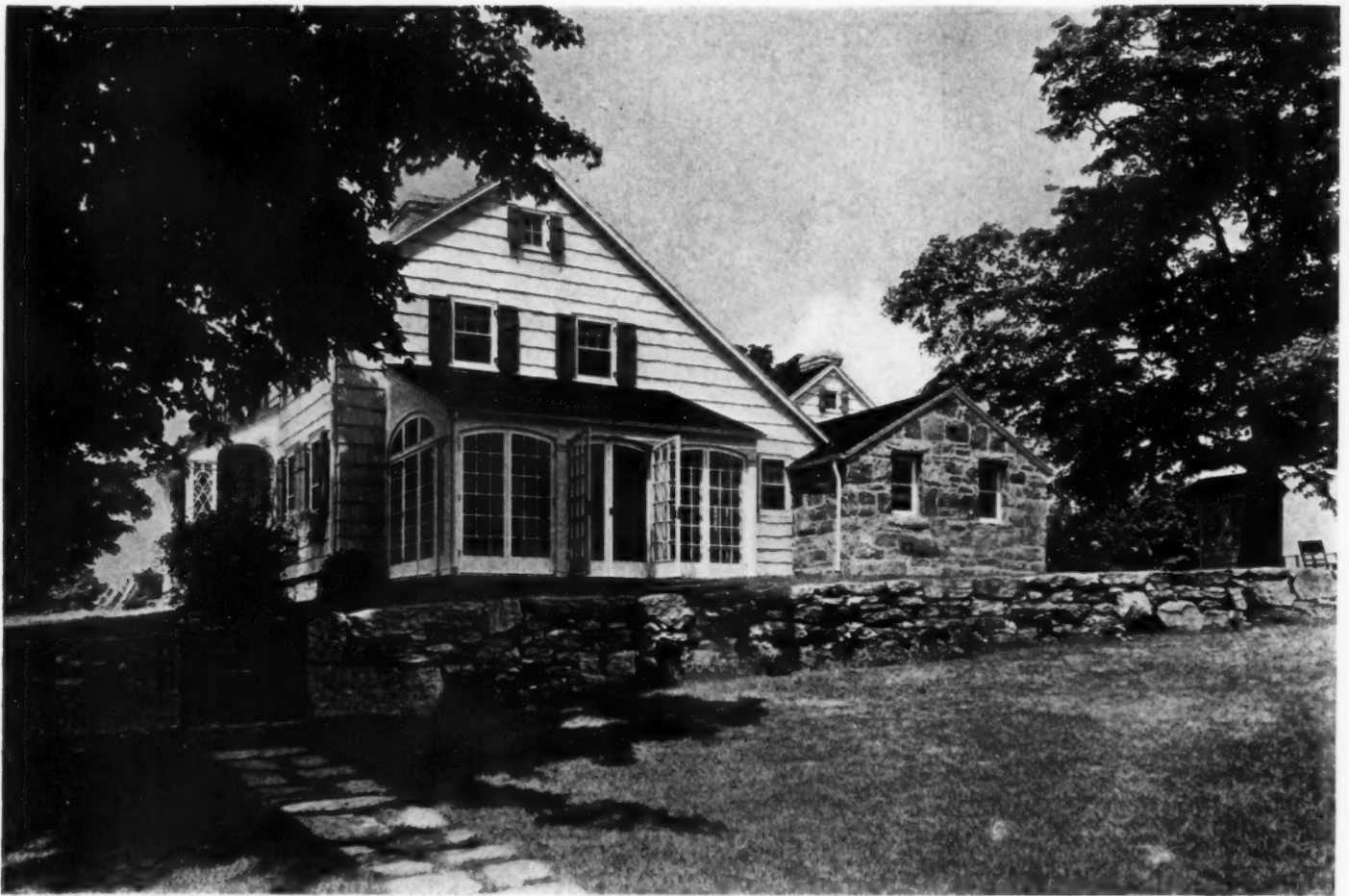


Plan before alteration.



Plan after alteration.





After remodeling.

Photographs by Samuel H. Gottsch



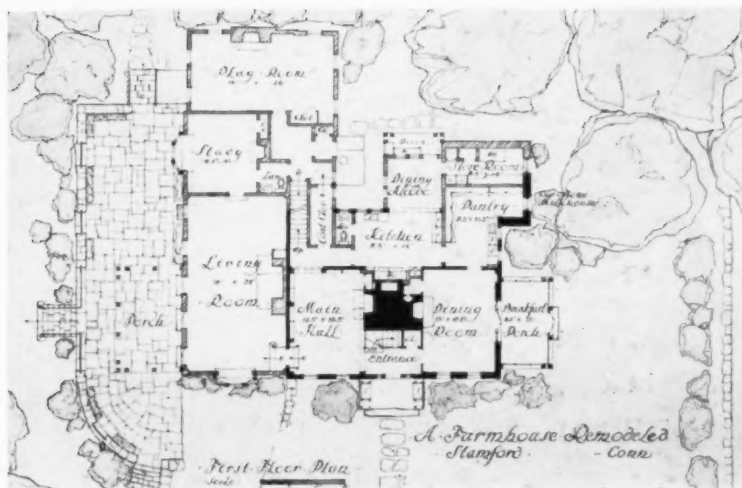
Before remodeling

REMODELED FARMHOUSE
IN STAMFORD, CONNECTICUT
WILLIAM F. DOMINICK, ARCHITECT



Before
remodeling

A. V. Pillsbury



Original size of house was more than doubled in remodeling. Exterior: handsplit cypress shingles, painted white; green blinds. New air conditioning system installed. Cost: approximately \$35,000.



After remodeling

REMODELED HOUSE
OF MRS. DOROTHY R. ELLIS
HADDAM, CONNECTICUT



Photographs by Paul J. Weber

ELEANOR RAYMOND ARCHITECT

Left: House before alteration.

Upper right: Porch room.

Lower right: Dining room.

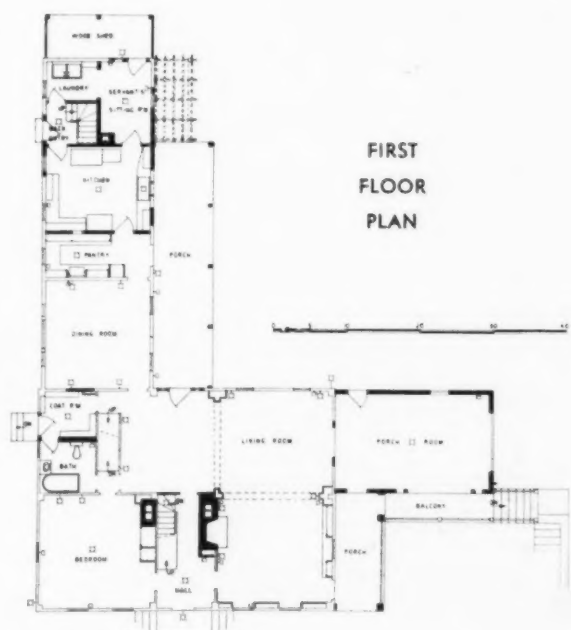


Extent of remodeling: Roof of ell raised. New chimneys built. Interiors replastered. Old floors relaid and some new ones installed; woodwork and bookshelves in living room are all new. New inclosed porch added. New heating, plumbing and wiring installed, together with water system and a septic tank.

Materials: Clapboards and matched boarding on exterior walls. Wood shingles for roof. Gypsum plaster on rock lath for interiors. Country pine paneling in living room. Linoleum floors in service and baths.

Color scheme: Pale yellow exterior walls with copper-colored blinds. Cream-colored trim and wall papers in most rooms. Stained pine woodwork in living room. Citron yellow painted walls and woodwork in dining room.

Cost: \$37,000, including architect's fees.





Photographs by Paul J. Weber

REMODELED HOUSE OF FRANK BARNES
HAVERHILL, MASSACHUSETTS
ELEANOR RAYMOND, ARCHITECT



FIRST FLOOR PLAN

House before remodeling



Extent of remodeling: Two-car garage with porch and terrace above added to one side of original house and a living room wing on the opposite side. Exterior shingled walls were furred out, wire lathed and stuccoed. All windows replaced with steel casements. New doorways and two new chimneys built. Kitchen and pantry rebuilt. One new tiled bathroom and lavatory added, old baths tiled and equipped with some new fixtures. New retaining walls and fence built. Cost: \$55,000, including architect's fees.



Paul J. Weber



SECOND FLOOR PLAN

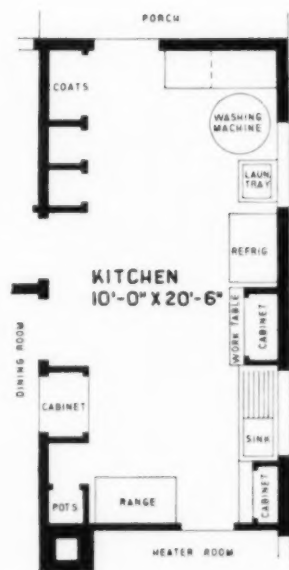
Materials: Exterior of California stucco. Split chestnut sapling fence. Wrought iron railing on porch, front entrance and front stairs. Bluestone paving on terraces and porch. Hand-finished plaster walls, chestnut trimmed, and wide board oak floors on first floor interiors.

Heating: Old hot-water system changed to vapor steam with gas-fired boiler. Concealed radiators in principal rooms.

Color scheme: Light neutral pink exterior with gray-green blinds. Iron railings, conductors and front-door lantern. Natural chestnut front door and fence. Neutral pink walls and natural wood trimmed beams in living room, study and hall.

REMODELED HOUSE OF FRANK BARNES
HAVERHILL, MASSACHUSETTS
ELEANOR RAYMOND, ARCHITECT

TECHNICAL NEWS AND RESEARCH



A rough installation used to test efficiency of kitchen plan in a farm housing project. Federal Civil Works Administration, U. S. Department of Agriculture.



PLANNING THE KITCHEN

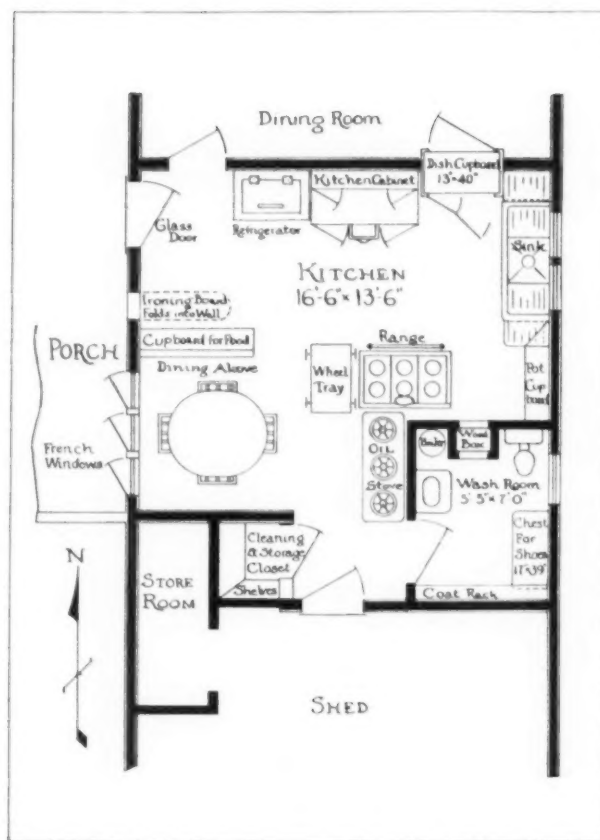
By
DR. LOUISE STANLEY, Chief
Bureau of Home Economics,
U. S. Dept. of Agriculture

The work center of the house is the kitchen, and the efficiency with which the work can be done there depends to a large extent upon its plan and arrangement. The general requirements of a well-planned kitchen are set up here as a guide for architects and builders in planning new construction. These same suggestions should be equally useful in replanning an old kitchen to make it more convenient.

There is no one model or ideal kitchen plan. Any kitchen, to be convenient, must be adapted to the needs of the family for food preparation and service. These needs vary with the size of the family, the amount of entertaining that is done, the type of dwelling, the substitute facilities at hand, the amount of outside service used, and the utilities available. Type kitchens can be set up which will meet these various needs, and general suggestions can be offered to make any kitchen more convenient.



Original floor plan of farm kitchen: Note scattered arrangement of working surfaces and poor placing of small equipment.



Revised plan: Note compact arrangement of all large equipment, placing of small equipment near surface on which first used, washroom and closet.

from KITCHEN EQUIPMENT AND ARRANGEMENT
by Marianne Muse, Vermont Agricultural Experiment
Station Bulletin 375, May 1934.

CERTAIN equipment is required in every kitchen: a stove, water supply usually combined with a drain in the form of a sink, work tables or work surfaces at satisfactory heights, refrigeration, and adequate storage space designed for the articles to be stored and located as nearly as possible where these will be used.

This equipment should be selected and arranged with the different kinds of work which must be carried on in the kitchen in mind.

- (1) The *preparation* of foods for cooking comes first. Vegetables are prepared at the sink and should be stored nearby. Short mixing jobs are done near the stove, and longer jobs at a work table which should be located near the main storage center, so staple supplies will be at hand, and if possible, the refrigerator should be nearby.
- (2) The *cooking* is done at the stove. It should be well lighted and easily reached from food preparation and service centers, and the utensils used there should be stored close at hand.
- (3) The *serving center* is a collecting station between the stove, the refrigerator, and the dining table. If there is a cupboard between the kitchen and the dining room, the lower shelf serves this purpose. If not, a wheel table makes a desirable serving surface for the housewife without a maid. The food can be arranged upon it and wheeled into the dining room at one trip. If families entertain much there should be facilities for increasing the surface by a hinged shelf or a movable table.
- (4) For the *cleaning up* or the dishwashing center a place for soiled dishes, sorting, washing, rinsing, and draining is needed. A satisfactory dishwasher is the ideal solution, located away from the utility sink, but as yet this is too costly for most homes. Next best is a separate sink planned for dishwashing. For the lower-priced homes the all-purpose sink should be selected and located with the different needs in mind.

PLANNING SEQUENCE

The various pieces of equipment are available at different cost levels with great variety in size, quality and finish. While wise selection of equipment is an important factor in efficiency, more important is the arrangement of the large pieces of equipment in a step-saving sequence to form a compact working area. In general, the jobs indicated above as being carried out in a kitchen follow a definite order. The raw food is collected, prepared, cooked and served. In the cleaning up process, the soiled dishes are removed, scraped and stacked, washed, drained, and put away. This furnishes a guide to the order in placing the equipment on the floor plan. In the preparing process, first the food storage cupboard and refrigerator, then the cabinet, then the stove, and last the serving table; and for the clearing away process, first the stack table, then the sink, then the drain board, and last the shelves for china.

In the preparing sequence, the work can proceed either toward the right or toward the left, but should end at the dining room door or serving window. In clearing away, however, work proceeds most efficiently to the left—provided we are right-handed. For each dish or utensil as it is washed is held in the left hand, and if the drain board is on the right of the sink, the left hand must cross over the right with every piece that is put down.

The arrangement possible will be determined by the structural features of the room, its size and proportions and the location of the openings and provisions for water and gas. So it is important that the architect have in mind a definite plan for placing the kitchen equipment before finally fixing these structural features.

RECOMMENDED ARRANGEMENTS

Studies in kitchens with different arrangements have resulted in the following definite recommendations as to the location of specific pieces of equipment:

Sinks should be installed with drain board to the left and flat surface or drain board to the right, both at height of top edge of sink. The drain board should be at least 32 inches long and the stacking surface at the left at least 36 inches. There should be open space under the sink itself. Some space above the sink should be available for narrow shelves for the storage of cleaning materials, and a wider shelf or cabinet for the storage of cereal, double boiler, coffee and coffee pot, tea and tea pot, cocoa and cocoa pot should be near the sink or over the stove. Small utensils used at the sink, dish scraper, paring knife and can opener should be hung within easy reach. A ventilated cabinet for vegetable storage is desirable near the sink.

The sink should be well lighted with a window preferably in the wall at right angles so placed as to throw light on the sink. If it is on the same wall, it should not be placed directly over the sink unless on the north side or with some protection from the glare. Wall space above the sink is valuable. If the window is placed there it must be sufficiently high to allow the back of the sink to fit under and should allow space for a small shelf. Artificial light should be so placed and of sufficient height to give good light on the work at the sink without throwing a shadow.

If dishes are to be stored in the kitchen, the storage should be above the left drainboard or within reach of it. Dish storage accessible from both kitchen and dining room saves steps. In this arrangement the sink must be on a common wall between the kitchen and the dining room or on a wall at right angles. When dish storage is not possible in either of the above places, a wheel table is necessary.

The stove may be at right angles to the sink, or directly across from the sink if the kitchen is narrow. Shelves or a cabinet for storage of utensils used at the stove should be within reach of the cooking surface. A small preparation surface or table (which may be movable) should be available adjoining the stove (burner portion) at the same height as the burner, and if near the dining room door or pass cupboard, it can be used also as a serving table. If this is to serve as a service center also, space should be provided for storage of bread and cake and the other things needed in food service.

The work table for long mixing jobs, such as baking, cake making, dessert and the like, should be of sufficient height to permit work while sitting, and should have knee space below. Staple supplies should be within reach of the worker so seated. This work table should preferably be between the refrigerator and stove.

The refrigerator should, from the point of view of convenience, be as near as possible to both work table and stove. It must be remembered, however, that the higher the surrounding temperature the greater the cost of operation of the refrigerator. In most cases the housewife prefers convenience at a slight increase of expense in operation. If an iced refrigerator is used, a position near the door facilitates icing without undue musing of the floor. A properly constructed draft cooler is desirable in most climates and makes possible a more efficient use of the space in the refrigerator.

Since the wall space is needed for placing equipment, the rectangular kitchen makes possible a more satisfactory arrangement than a square one. Unless a coal or wood range is used the width should not exceed 8 or 9 feet. A kitchen should be at least $6\frac{1}{2}$ feet wide or only one side wall can be used for placing equipment, which is inefficient. The kitchen with all the proposed equipment should be drawn to scale before final decision as to location of opening and of utility outlets is made. So far as possible, the work portion should be kept free from doorways to prevent traffic way across it, and breaks in working surfaces.

The architect can contribute much to the efficiency of the kitchen by specifying convenient heights for working surfaces and by planning storage spaces so as to minimize stooping and stretching. The sink and work surfaces for short jobs should be at satisfactory heights for work while standing. This varies with the worker, good averages being from 34 to 36 inches. Work surfaces for longer jobs or for the woman who spends much time in food preparation should be provided with knee space underneath at a suitable height for sitting either on a stool or preferably in a comfortable chair with both feet on the floor.

Storage space should be adapted to the size of the articles to be stored and placed, so far as possible,

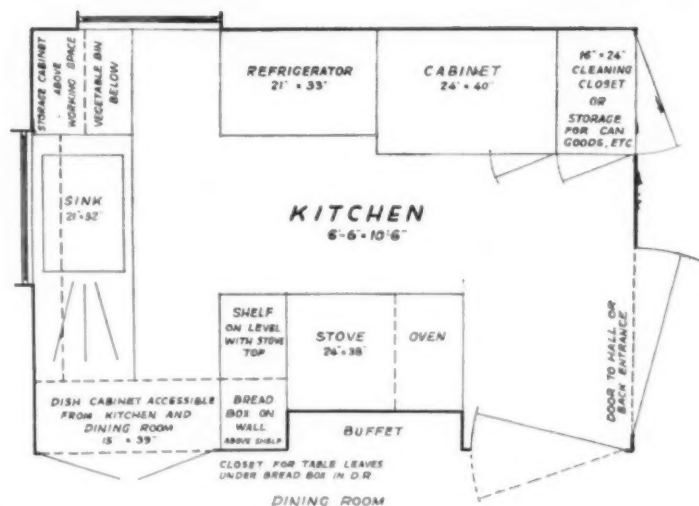
where the particular article will be first used. The large one-purpose kitchen cabinet has served its day. It is replaced with built-in units placed where needed. Unfortunately, too many of these installations are planned by the manufacturer interested primarily in increasing the volume of his sales, and with too little knowledge of the kitchen activities and articles to be stored. As a result, there is likely to be an over-elaboration of cabinet space, artistically balanced but poorly arranged in relation to size or location of the articles to be stored.

The same amount of cabinet space—if arranged with the activities of the kitchen and the equipment to be stored in mind, will make possible much more efficient work. Kitchen units of standard size which may be adapted to various uses allow great flexibility in arrangement, but back of any arrangement should be a carefully worked out plan.

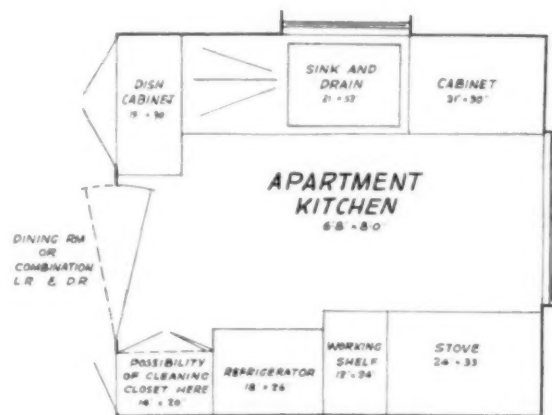
STORAGE SPACES

A satisfactory procedure in determining the built-in facilities is first to decide on the amount and the location of work spaces required by following the above listing of tasks to be done. No more work-table space should be required than is actually needed, not only for the sake of keeping down the cost of built-in units but also to keep the floor area as small as possible.

Having decided the amount and location of work-table spaces the next step is to plan the wise utilization of the cabinet spaces above and below each work area. In most home kitchens this will take care of all the articles to be stored. In the farm kitchen additional storage spaces may be needed in the basement or work-room. As a guide in planning these storage spaces the accompanying classification of material to be stored has been prepared.



Large one-family house without maid service.



Apartment or small house kitchen.

Serving center

Bread; cake; cookies.
Ready-to-eat cereal; crackers; wafers; zweiback; rusks, etc.
Loaf sugar; honey; candies; dried fruits served from packages.
Relishes not requiring low temperature.
Bread and cake knives; bread board; cake rack.
Ladles and serving spoons; serving forks; butcher knives.
Dishes, silver and linen used for everyday meals (unless warmed compartment is provided for platters, vegetable dishes, plates and cups).
Dishes, silver, linen, and table decorations used for company meals, and infrequently used dishes, unless storage is provided in dining room.
Mats for hot dishes.
Serving trays.

Sink center

Stew kettles; double boilers; saucepans.
Colanders; strainers.
Ice-cream dipper.
Paring knives; slicing knives; scissors; vegetable brushes.
Dish pans; rinse pans; dish drainers.
Pot cleaners; cleaning brushes.
Sink strainer; dish scraper.
Dish towels; dish cloths; hand towels.
Soap containers.
Garbage container.
Drinking glasses.
Cloth for wiping up spilled water from floor.
Drain cleaner; scouring powder; soap.
Hand lotion.

LEFT:

Plans illustrate minimum floor space arrangements for kitchens.

Mixing center	Flour; meal; other uncooked cereals used mainly in preparation of made dishes. Sugar. Leavening agents; dry yeast. Cornstarch; gelatine; junket. Spices; flavorings and colorings used in made dishes; cake decorations. Mixing bowls; chopping bowl. Measuring cups. Grinders, choppers, shredders, graters; reamers; nut crackers; scissors; egg beaters; egg whips; meat pounder; meat saw. Spatulas; knives; mixing spoons; measuring spoons. Dough cutters; sifters; rolling pins. Cake decorators, cookies "guns," etc.; molds. Baking pans—bread, cake, pies, muffins, cookies, casseroles. Boards—pastry; meat; vegetable. Electric mixer. Wax paper; paper napkins (for lunches); paper dishes. Recipes.
Stove center	Coffee and coffee substitutes; tea. Salt; pepper; other seasonings. Flour in dredger. Ladles; stirring spoons; masher; ricer. Spatulas; turners; forks; wire toaster. Skillets; griddles; broilers; roasters. Coffee pot; tea pot. Utensil-lids. Deep-fat kettle and basket. Pressure steamer. Thermometers. Pan-holders; lifters. Matches; stove polishes.
Draft cooler	Fresh fruits and vegetables, unless highly perishable. Cured meats; cured cheese. Cooking fats. Syrups; molasses. Chocolate; cocoa; cocoanut; malted milk. Opened jellies; jams, relishes, etc. Candied fruits. Salad dressing; vinegar. Unshelled nuts. Bouillon cubes.
Refrigerator*	Foods requiring chilling before use. Left-over foods; perishable foods prepared in large quantities. Milk and cream; butter; eggs; fresh meat. Highly perishable fruits and vegetables. Salad oil; peanut butter; shelled nuts; cod liver oil. Opened packages of perishable foods—fruits, vegetables; meat, fish, evaporated milk. Soft yeast.
Unassigned	Containers used for foods kept in cooler or refrigerator should be kept near work surface which is most convenient to use in transferring foods to them. Unopened canned foods. Empty fruit jars, before taking to food-storage room. Kitchen aprons. Scales. Can openers; bottle openers, etc. Tub for ice-cream freezer. Popcorn; popper. Sacks; wrapping paper; string. Hammer and other tools; knife sharpener. Picnic kit. Clean rags, cheesecloth, etc. Electric toaster; waffle iron; percolator; electric cords. Waste basket. Paper; pencil. Table leaves; false table-top (unless storage is provided outside kitchen). Water jugs.

*This classification is based on the assumption that refrigerator space should be kept to a minimum, because of its cost, and that the refrigerator would not be operated during the cooler months.

CONSTRUCTION OF STORAGE FACILITIES

Shelves should be readily removable and adjustable as to distances apart.

More efficient use can be made of space intended for articles which will hang, such as door or sides of cabinet, if the material used for lining permits one to place a hook wherever desired.

An upper cabinet should be made as shallow as possible, allowing for a single row of the largest articles to be stored in it.

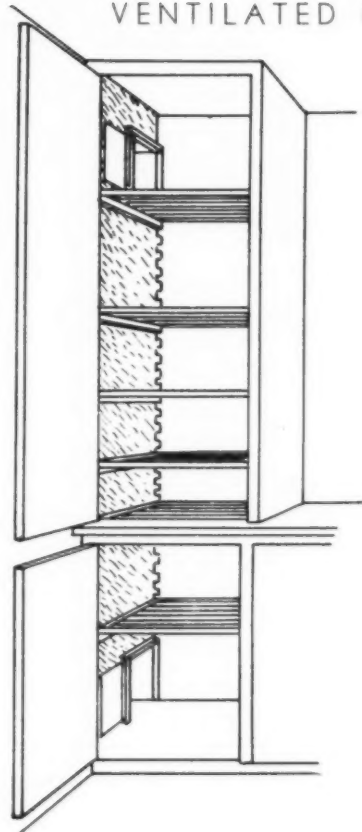
Movable trays are better than shelves in compartments below work counters. The trays should be four inches narrower than the compartment itself, to allow space for articles hung or placed in racks on the door.

Drawers may be used advantageously as bins. Larger drawers with movable metal insets are preferable to small drawers for supplies stored in less than twenty-five pound lots.



Floor plan showing closet between mixing table and stove.

VENTILATED CLOSET FOR FOODS



ESSENTIALS IN CONSTRUCTION:

Tight-fitting door. Shelves removable and adjustable as to distances apart.

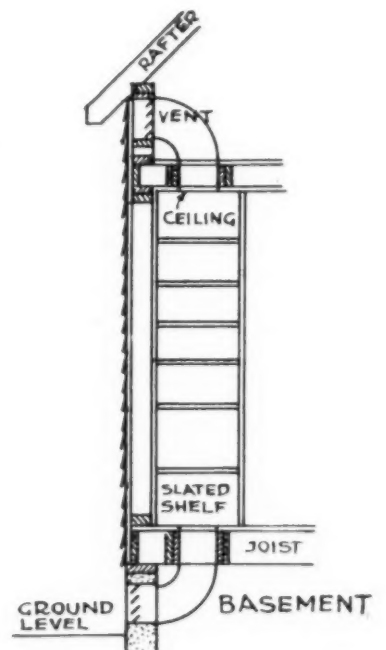
Shelves as open as possible. They may be made of wooden slats or heavy wire.

Two vents are essential. The lower one should be at or below the floor level, the upper one should be as high as possible.

Large vents are more effective than small ones.

Vents should be covered with fine-mesh copper screening which can be removed for cleaning.

Vents should be fitted with some arrangement for closing which can be operated from inside.



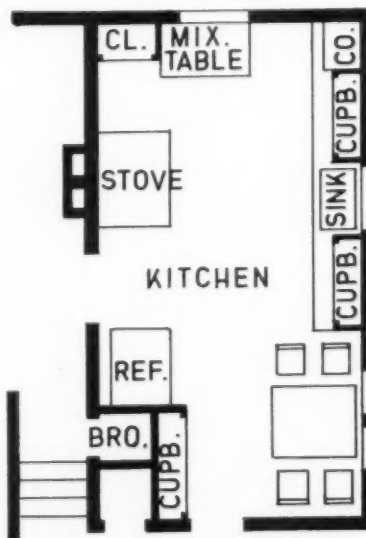
CROSS-SECTION OF COOLER WITH VENTS PLACED BELOW AND ABOVE FLOOR LEVELS.

FOR EQUIPMENT AND STAPLE SUPPLIES USED AT BOTH CENTERS.

Shelves 15" wide. Lower part of partitioned section is 38" from floor. Shelves above and below are adjustable to 2" intervals.

Movable partitions form compartments for pie tins, muffin pans, etc.

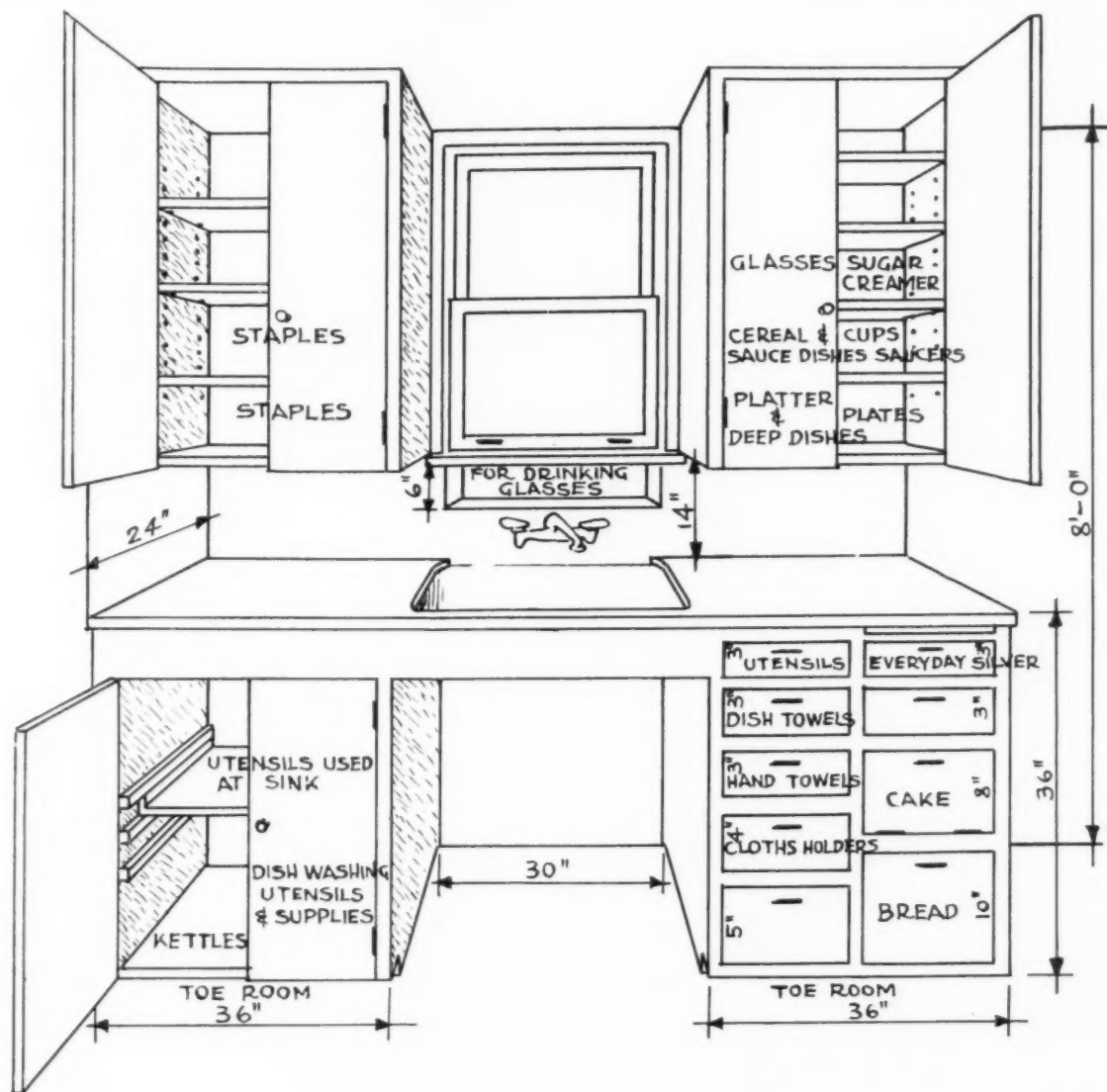
Space is left between the door and the front edges of shelves to permit small articles to be hung on the door and at the sides of the shelves.



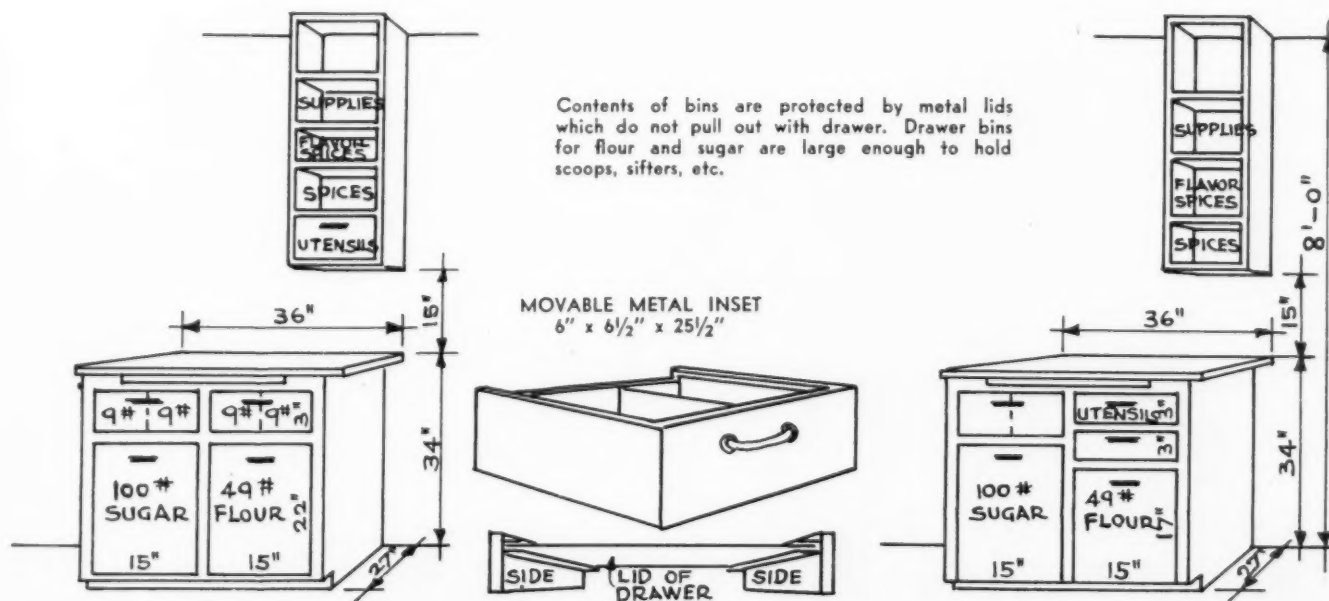
UTILIZATION OF STORAGE SPACE ABOVE AND BELOW WORK SURFACE

SINK UNIT:

24" wide,
36" high,
8'6" long.

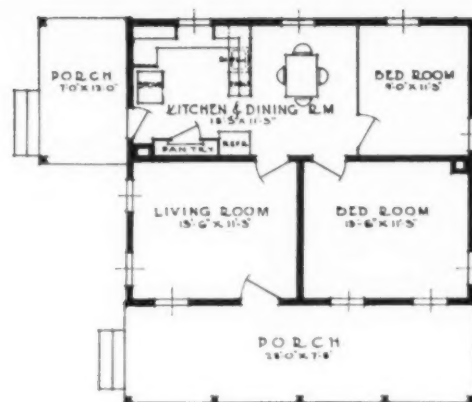


MIXING TABLES: 27" deep, 34" high and 36" long.



SPECIAL NEEDS OF THE RURAL KITCHEN

The farm kitchen has traditionally been much larger than the urban kitchen. It developed this way because of the use of the kitchen as a living and dining center, and the provision for carrying on there a number of activities other than food preparation, such as laundry and care of milk. It is considered the best practice now to provide for other activities in a separate workroom or a segregated portion of the kitchen. This makes possible the planning of the space devoted to food preparation on a more efficient basis and follows the same general principles outlined above. Where a wood or coal range must be used additional width may be needed. Satisfactory designs are suggested in the accompanying plans from the bulletin, "Farmhouse Plans" (Farmer's bulletin 1738), now in press.



FLOOR PLAN

Equipment can be arranged to separate dining space from kitchen.



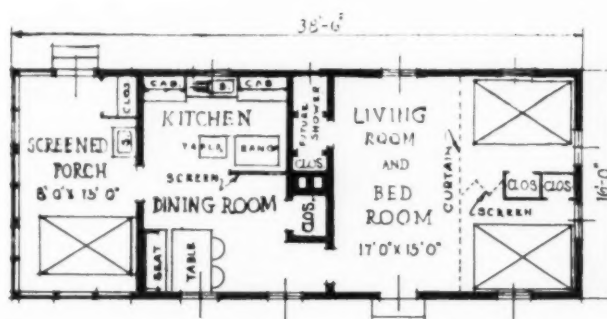
FARM HOUSING PROJECTS

(Left): Department of Architecture, Kansas State College.

(Upper right): Department of Agricultural Engineering, University of Arkansas.

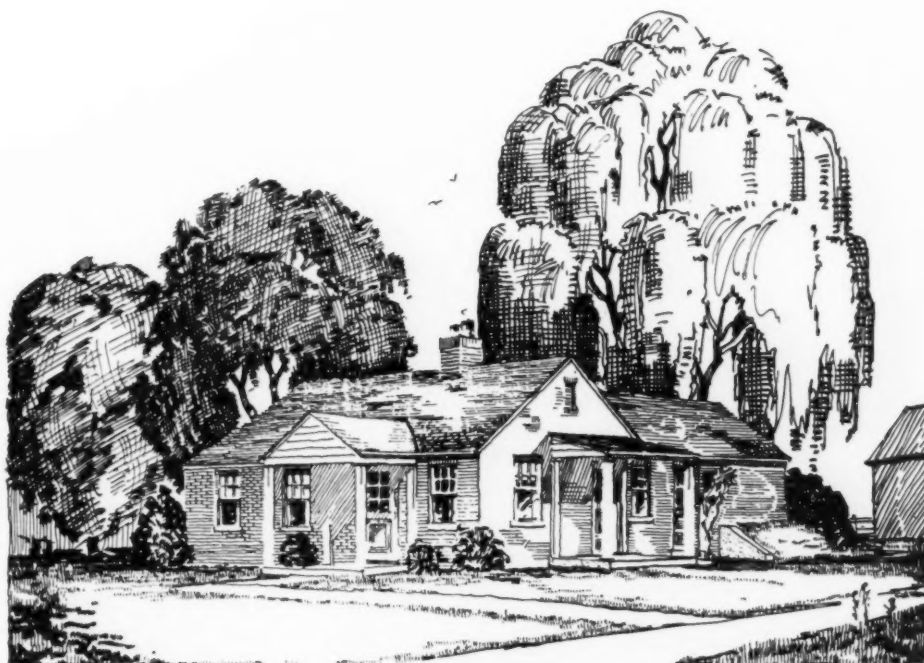
(Lower right): Department of Agricultural Engineering, University of Missouri.

U. S. DEPT. OF AGRICULTURE
CIVIL WORKS ADMINISTRATION



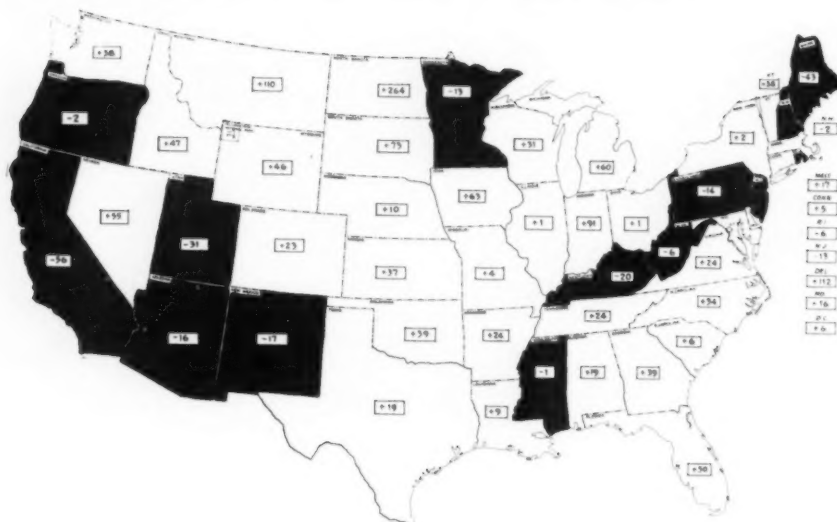
FLOOR PLAN

EVEN THE SMALL INEXPENSIVE FARMHOUSE
MAY HAVE A WELL-PLANNED KITCHEN



BUILDING TRENDS AND OUTLOOK

BY L. SETH SCHNITMAN
CHIEF STATISTICIAN
F. W. DODGE CORPORATION



BUILDING DURING 12 MONTHS—September, 1933–August, 1934, INCLUSIVE. Corresponding twelve months ended August, 1933, taken as base. SHADED AREA: BELOW BASE. UNSHADED AREA: ABOVE BASE. Figures denote percentage change from base. Floor space for new building contracts, 37 states east of the Rocky Mountains. Permit valuations for Rocky Mountain and Pacific coast states. Map, copyright American Map Co., N. Y. Authorized reproduction No. 5025.

RESIDENTIAL BUILDING SHOWS FURTHER LOSS

MATERIAL PRICE MEASURING ROD

F. W. DODGE CORPORATION
COMPOSITE PRICES

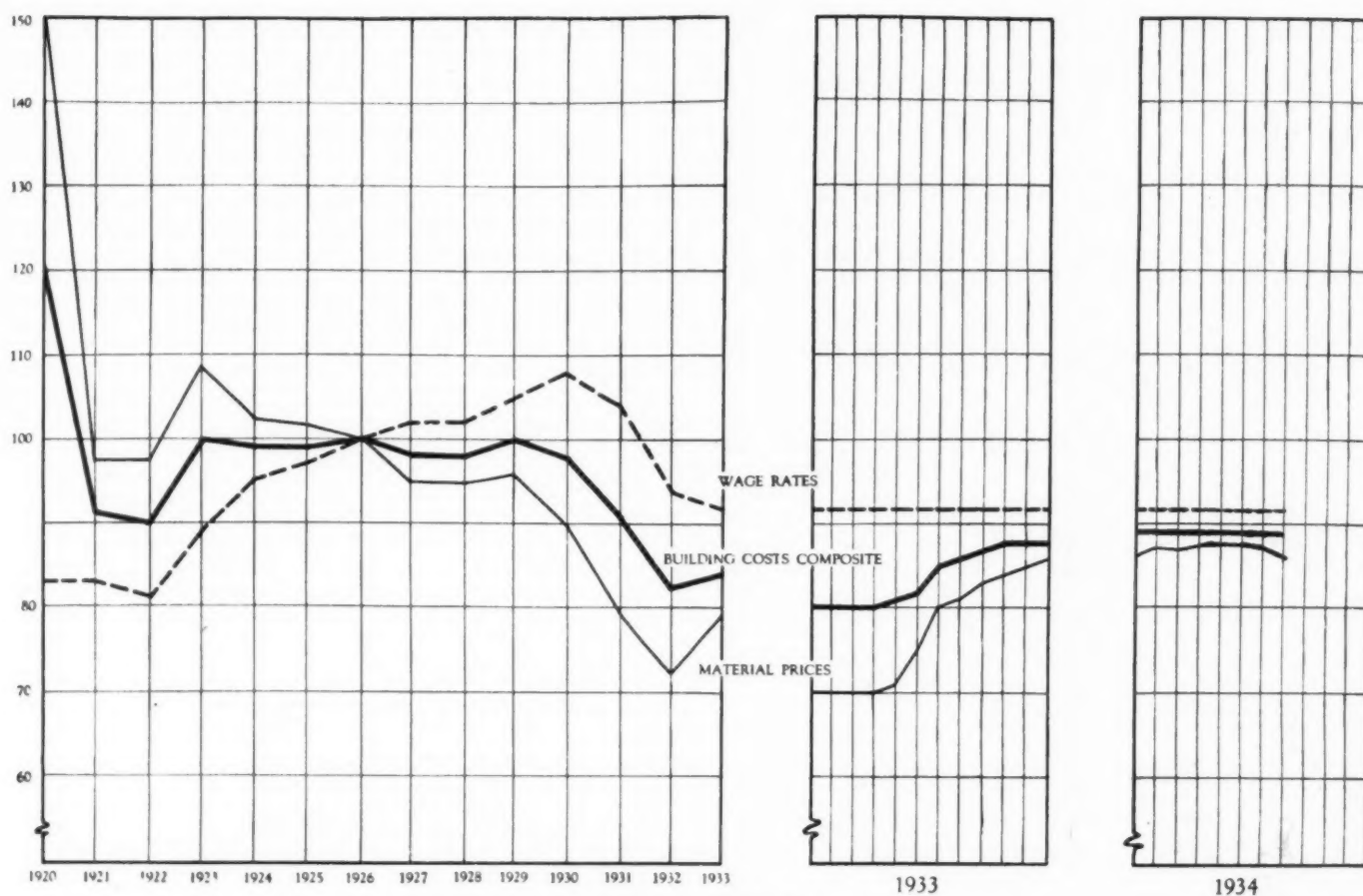
MATERIAL	This Month	Month Ago	Year Ago
Portland Cement . .	\$2.25	\$2.25	\$2.14
Common Brick	14.94	14.83	11.65
Structural Steel . .	1.65	1.65	1.60
Lumber	16.30	16.35	16.30

The prices in this tabulation enable one to visualize at a glance the main trend of the material market. Their significance does not extend beyond that point, and the explanation should be read carefully. Prices given in this comparison are composite and do not in all cases refer to one item. For instance, the price of structural steel is the composite of prices of shapes and plates f.o.b. Pittsburgh; the price of lumber is a composite of five items of Southern pine and five items of Douglas fir f.o.b. mill; the price of cement is a composite of prices in fourteen different cities per barrel, carload lots, to contractors; price of brick is composite in fourteen cities per M. delivered on the job. ©Revised.

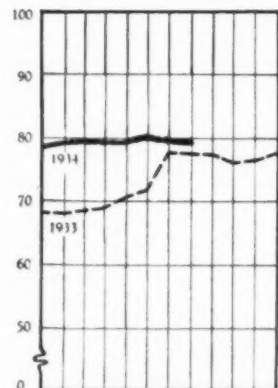
The volume of construction contracts placed during August was slightly higher than that reported for July and 13 per cent greater than the total shown for August, 1933. Out of the August, 1934, volume of \$120,244,500 a total of \$51,046,800 was reported for nonresidential building types; \$41,905,900 for public works; \$18,641,000 for residential building; and \$8,650,800 for public utilities. The August totals for nonresidential building and public works classifications were larger than in August, 1933, while for residential building and public utilities the respective totals were smaller than a year ago. For both residential and nonresidential building the August totals were smaller than those reported for July.

The decrease in residential building awards from August, 1933, marks the fourth month of consecutive loss from a year ago, declines from last year starting with the record for May, 1934. This situation calls for correction for without recovery in the residential field no lasting revival in construction can occur. The Federal Housing Administration is now swinging into action; it is to be hoped that with this aid residential improvement on a lasting base may soon appear.

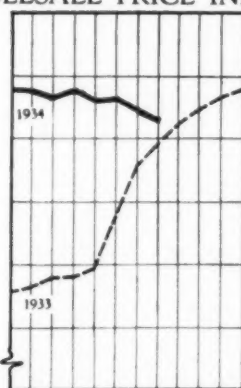
For the first eight months of 1934 residential contracts awarded in the 37 Eastern States totaled \$170,233,500 as against \$158,672,100 for the corresponding period of 1933. Although this indicates a gain of something more than 6 per cent, of greater immediate significance is the fact that for the month of August of this year the residential total was 15 per cent behind the volume of August, 1933. On this showing it is dubious now whether the residential total for all of 1934 can materially exceed the total for 1933 or that it can attain the volume of \$280,000,000 reported for the 37 Eastern States for 1932. Contracts for residential building for the first eight months of the current year are running behind 1933 totals in the following major geographic areas: New England, Upstate New York, Pittsburgh, Central Northwest, St. Louis and Kansas City.



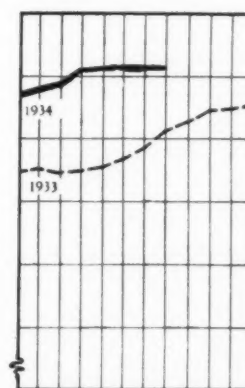
WHOLESALE PRICE INDEXES



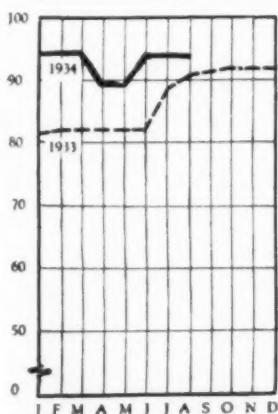
PAINT MATERIALS



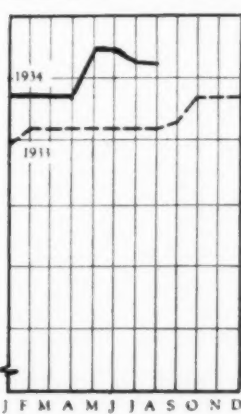
LUMBER



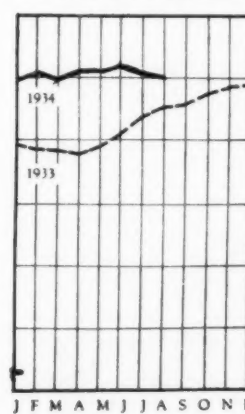
BRICK AND TILE



CEMENT



STEEL



OTHER MATERIALS

1926 MONTHLY AVERAGE = 100

MATERIAL PRICES, BUILDING WAGE RATES AND BUILDING COSTS COMPARED

The Architectural Record, October, 1934

BUILDING TRENDS AND OUTLOOK

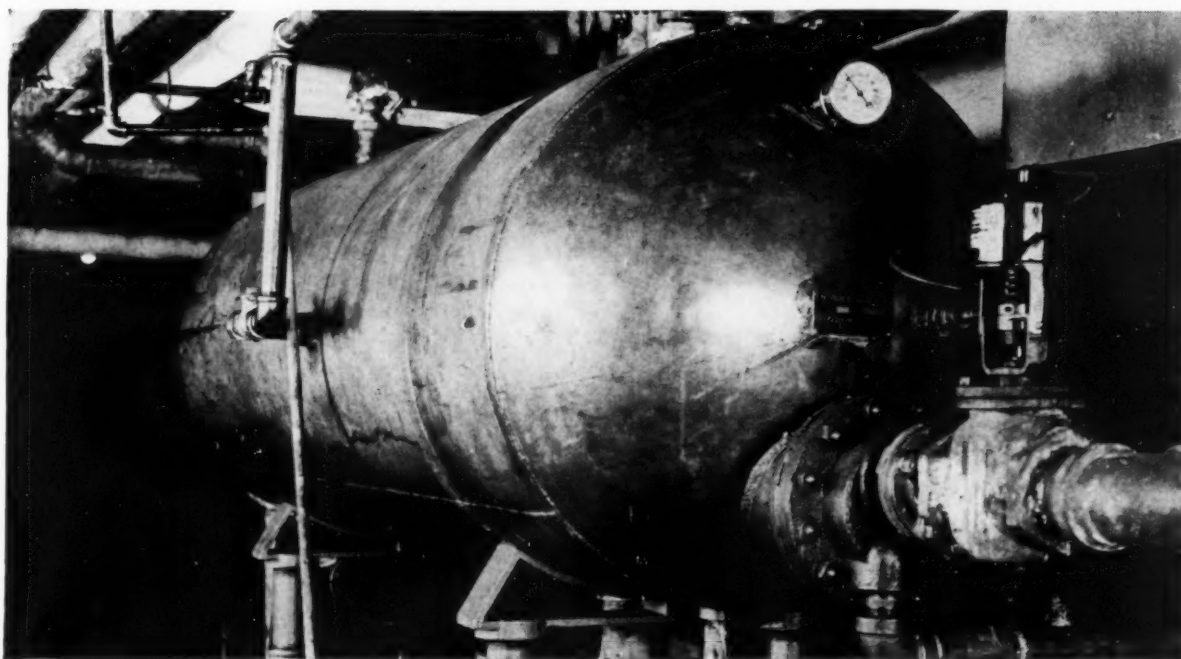
WAGE SCALES IN THE BUILDING TRADES

Information Furnished by National Association of Builders Exchanges and Compiled by Division of Statistics and Research,
F. W. Dodge Corporation, as of August, 15, 1934

	Asbestos Workers	Bricklayers	Bricklayers Tenders	Carpenters	Cement Finishers	Electricians	Holding Engineers	Iron Workers —Ornamental	Iron Workers —Structural	Laborers	Lathers	Painters	Plasterers	Plasterers' Tenders	Plumbers	Roofers— Composition	Roofers— Slate & Tile	Sheet Metal Workers	Steamfitters	Stone Masons	Tile Setters	Tile Setters' Helpers	
Akron.....	\$1.00	\$1.25	\$0.45	\$0.70	\$0.70	\$0.75	\$0.70	\$0.60	\$0.60	\$0.40	*\$0.87½	\$0.65	*\$1.00	\$0.62½	\$0.85	\$0.80	\$0.80	\$0.80	\$0.85	*\$1.25	*\$1.25	*\$0.50	
Atlanta.....	1.00	1.40	1.30 .45	.70	1.25	1.10	1.00	1.85	1.25	.25 .35	1.00	.75	1.25	.30 .45	1.25	.80	.80	1.00	1.25	1.25	1.25	.40	
Baltimore.....	1.00	*1.10	1.10	1.00	*1.00	*1.00	*1.50	*1.37½	*1.37½	.40	*1.25	1.00	*1.25		*1.10	.75	.75	*1.12½	*1.10	1.10	1.25	.65	
Boston.....	1.25	*1.30	.70	*1.17½	1.17½	*1.25	1.17½	*1.20	*1.20	.70	*1.50	*1.12½	1.37½	*.95	*1.25	*1.17½	*1.05	1.17½	*1.25	*1.30	*1.30	*.95	
Buffalo.....	1.00	*1.25		*1.00	1.00	1.12½	1.00	1.12½	1.12½	.50	1.25	*1.00	1.00		1.20	.50	1.00	1.00	*1.20	*1.25	*1.18½		
Chicago.....	1.37½	1.50	.82½	*1.37½	1.37½	1.50	1.37½	1.33½	1.35	.82½	*1.50	1.33½	*1.50	.88½	1.37½	1.37½	1.50	1.37½	1.37½	1.50	1.37½	1.06½	
Cincinnati*.....	1.15	1.37½	.70	1.20	1.02½	1.25	1.25	1.25	1.25	.45	1.31½	1.15	1.37½	.70	1.25	.92½	1.07½	1.07½	1.12½		1.00		
Cleveland*.....	1.17½	1.25		1.12½	1.12½	1.37½	1.12½	1.25		.72½	1.25	1.20	1.25		1.25	1.15	1.37½	1.12½	1.25		1.25	.81½	
Columbus.....	1.00	1.30	.62½	.80	.80	1.00	1.15	1.25	1.25	.40	1.00	.80	1.00	.62½	1.00	.80	1.00	.90	1.00	.75	1.25	.50	
Dayton*.....	1.25	1.30	.80	1.00	1.15	1.55	1.25	1.35	.50	.50	1.10	1.00	1.20	.80	1.00	.85	1.00	1.00	1.00	1.30			
Denver†.....	12.00	6.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4.00	11.00	10.00	5.00	11.00	10.00	7.00	7.00	8.00	9.00	12.00	10.50	1.62½	
Des Moines.....	3.00	*13.00	7.00	10.00	11.00	11.00	10.00	11.00	11.00	5.00	11.00	*10.00	12.00	7.00	11.00	8.00	8.00	9.00	9.50	13.00	10.50	1.62½	
Des Moines.....	1.00	1.25	.67½	1.00	1.00	1.00	1.00	1.00	1.20	.55	1.00	1.25	1.25	.67½	1.00	1.00	.87½	.87½	1.00	1.25	1.25	.67½	
Detroit.....	1.37½	1.25 max.	.55	.80	.70	1.25	.60	1.00	1.00	.50	.80	1.00	1.25	.80	1.00	.70	.80	.80	1.25	1.25	1.00		
Detroit.....	1.37½	1.25 max.	.60	1.00	.90	1.40	1.00	1.20	1.25	.55	1.37½	1.00	1.25	.80	1.50	.90	1.00	1.00	1.50	1.50	1.25	.80	
Duluth.....	1.00	1.00	.50	.80	.80	1.00	.80		1.00	.50	.80	.80	1.00	.70	1.00	.70	1.00	.85	1.00	1.00	1.00	1.00	
Elmhurst.....		.45	.90	.60	.90	.60	.90	.80	.90	.40	.90	.60	.40	.50	.50	.50	.80	.80	*1.00	1.00	.80	.40	
Erne.....	1.00	.80	.80	*1.00	.90	.90	.90	.80	.90	.40	.90	.70	1.00	.50	1.00	.60	.90	.90	*1.00	1.00	.80	.50	
Houston.....	1.00	.35	.75	.75	1.00	.75	1.00	1.00	.35		.62½	1.00	.35	1.00	.75	1.00		1.00	1.00	1.00			
Indianapolis.....	1.32½	1.62½	.90	1.22½	1.17½	1.50	1.37½	1.45	1.45	.45	1.37½	1.25	1.57½	1.00	1.00	.90	1.27½	1.22½	1.50	1.62½	1.50	.60	
Kansas City.....	.90	1.32½	.80	1.00	1.00	1.00	1.00	1.00	1.00	.60	1.00	1.00	1.06½	.80	1.00	.92½	.92½	1.00	1.00	1.12½	1.25	.62½	
Los Angeles†.....	10.00	8.00	6.00	7.00	8.00	7.00	8.00	9.00	10.00	4.00	10.00	7.00	9.00	6.00	9.00	7.00	7.00	8.00	10.00	8.00	6.00	1.7	
Louisville.....	1.00	1.25	.62½	1.00	1.00	1.00	1.00	1.00	1.00	.40	1.12½	.95	1.00	.62½	1.12½	.40	.85	.85	1.12½	1.25	1.00		
Memphis.....	1.00	1.37½	.50	.87½	1.10	1.00	1.12½	.87½	.87½	.40	1.00	1.00	1.25	.50	1.25	1.00	1.12½	1.12½	*1.25	1.37½	1.25	.50	
Milwaukee.....	1.00	1.00	.75	.92½	1.00	1.25	1.00	1.05	1.05	.60	1.00	1.00	1.00	.75	1.00	1.00	1.00	.92½	1.00	1.00	1.00	.65	
Minneapolis.....	1.00	1.00	.80	.80	1.00	.80	.90	1.00	.45	.75 .85	.80	1.00	.70	1.00	.70	.70	.80	1.00	1.10	1.00	.65		
Nashville.....	1.00	.60 .75	.50	.75		.60	.75	.40	1.00	.62½	1.00		1.00	.60	.60	.60	.80	.75	.50	.75			
New Haven*.....	1.20	.50 .80	1.06½	1.20	1.00	1.27½	1.37½	1.37½	.65	1.27½	1.00	1.20	.60	1.06½	1.50	1.06½	1.06½	1.20	1.20				
New Orleans.....	.65	.80	.85	.75	1.00	1.25	1.25	1.25	1.25	.35 .50	.75 .90	.75	1.25	.75	1.25	.40	1.15	.90	1.05	1.25	1.50	1.25	.35
New York City†.....	11.20	12.00	7.00	11.20	11.20	13.20	11.20	6.60	11.20	9.00	12.00	8.50	12.00	10.28	12.62	11.20	11.20	12.00	11.50	8.50			
Oakland†.....	6.40	10.00	5.60	7.20	8.00	8.00	11.00	7.20	11.00	5.00	8.00	7.00	8.80	6.00	9.00	6.40	6.40	11.00	9.00	8.00	8.00	5.00	
Oklahoma City†.....	8.00	8.00	4.00	8.00	8.00	8.00	8.00	8.00	8.00	3.50	.80	8.00	.80	4.00	.80	6.00	6.00	8.00		11.00	1.62½		
Omaha.....	1.32½	1.12½	.45	.90	1.00	1.00	1.00	.90	.90	.50	.90	.80	1.20	.80	1.20	.72½	.95	1.00	1.20	.90	1.00	.60	
Philadelphia.....	1.00	1.50	1.00	1.05	1.25	1.18½	1.37½	1.37½	.40	1.37½	.90	*1.37½	1.20	1.00	1.25	1.25	1.20	1.25	1.12	.75			
Pittsburgh.....	*1.50	*1.50	*1.25	*1.56½	1.43½	*1.37½	1.37½	.70	*1.50	.87½	*1.50	1.50	*1.25	*1.50	*1.31½	*1.50	*1.40	1.33½	.88				
Portland, Ore.†.....	8.00	*9.60	7.20	7.20	*7.20	*8.00	9.60	8.80	8.80	4.80	*8.80	7.04	*9.60	*7.20	*8.80	7.20	7.20	*8.00	*8.80	*9.60	8.00	7.20	
Reading.....	.80	.80	.60	.80	.80	.80	.80	.90	.40	.90	.63	.90	.60	.90	.80	.80	.70	.90	.70	.75-1.15	.50		
Richmond.....	.60 .65	1.25	.35 .40	.80		.70	.70	.40	1.00	.60	.60	.90	.60	.60	.60	1.00	.90	1.25	1.25				
Rochester.....	.91	1.25	.55	1.05	*1.25	*1.15½	.90	.70	*1.00	.70-1.00	.55	.90	1.05	*1.25	.55	*1.06½	*.80	*.80	1.05	*1.06½	*1.25	1.20	.47½
Salt Lake City †.....	9.00	5.00	7.20	8.00	1.12½	1.12½	1.12½	1.12½	4.00	1.25	7.20	1.50	1.10	8.00	7.20	8.00	8.00	8.00	9.00	8.00	4.00		
San Antonio†.....	6.00	6.00	2.00	2.00	3.00	3.00	4.00	1.75	5.00	1.50	4.00	3.00	4.00	2.00	5.00	5.00	4.00	3.00	5.00	3.50	4.00	2.00	
San Antonio†.....	10.00	10.00	3.00	7.00	8.00	7.00	7.00	4.50	10.00	2.50	7.00	7.00	8.00	3.00	8.00	6.00	6.00	7.00	8.00	8.00	10.00	3.00	
San Francisco.....	6.40	9.00	7.00	7.20	7.20	9.00	9.00	9.60	5.00	8.00	7.00	8.80	7.50	8.00	8.00	8.00	7.20	8.00		8.00	5.00		
Seattle†.....	8.00	9.60	5.28	7.20	7.20	*8.80	8.00	8.00	8.80	4.75	*8.80	7.20	*9.60	*6.40	*8.80	7.20	7.20	8.00	*8.80	9.60	8.00		
Sioux City.....	1.00	1.25	.50	1.00	.90	1.00	1.00	.90	.90	.50	.90	1.00	1.25	.60-65	1.20	.90	.90	.85	1.20	1.25	1.00	.60	
St. Louis.....	1.25	1.50	.87½	1.25	1.31½	1.50	1.47	1.47	1.47	.78½	1.25	1.25	1.50	1.06½	1.43½	1.17½	1.25	1.25	1.43½	1.25	1.25	.76½	
St. Paul.....	1.00	1.00	.55	.80-90	.80	1.00	.80	1.00	1.00	.50	.90	1.00	1.20	.80	1.20	.80	.80	.85	1.20	1.00	1.12½		
Washington, D.C.	*1.50	1.75	.50 .75	*1.37½	1.25	*1.65	*1.37½	*1.65	*1.65	.75	*1.62½	*1.37	*1.75	*.75	*1.50	*1.37½	*1.37½	*1.50	*1.50	*1.25	*1.50	.75	
Wichita.....	.60	.75	.25	.40	.40	.50	.30	.40	.40	.20	.50	.50	.60	.25	.50	.50	.50	.75	.75	.50	.25		
Wichita.....	.60	1.25	.40	.75	1.00	.87½	.75	1.00	1.00	.40	1.25	.87½	1.25	.50	1.00	1.00	1.00	1.00	1.12½	1.25	1.00	.40	
Youngstown†.....	*1.00	1.25	.60	.75-1.00	1.12½	1.00	1.12½	1.25	1.25	.40	1.00	1.00	1.25	.75	1.00	1.00	1.00	1.00	1.00	1.25	1.25	.81½	

NOTE.—Where two figures are shown they are the minimum and maximum. All figures are for hour rates except as indicated. †18-hour day. ‡6-hour day. †Rate per hour.
*On 5-day week basis. eCorrection. Asterisk after city indicates all trades on five-day week basis.

ABOVE DATA ARE WAGE SCALES AND DO NOT NECESSARILY INDICATE ACTUAL WAGE RATES BEING PAID IN THE RESPECTIVE TRADES.



This all-welded Everdur storage heater was designed and manufactured for Mellon National Bank of Pittsburgh by PATTERSON-KELLEY CO., INC. of New York. It maintains a working pressure of 100 lbs. and, because it cannot rust, will provide a plentiful supply of rust-free hot water indefinitely.

Now... a bank installs a storage heater of *rustless* EVERDUR

ANOTHER example of far-sightedness that will result in better, longer service at minimum expense for maintenance, the Mellon National Bank in Pittsburgh is now serviced by a new storage heater which *cannot* rust. Its shell is of welded Everdur Metal!

Nearly all copper, Everdur is a special non-rust alloy which combines the strength of medium carbon steel with ready weldability—at moderate cost. No wonder Everdur has enjoyed ever-growing acceptance as the ideal material for durable, rustless water tanks of every de-

scription—from domestic range boilers to giant storage heaters. Whether for a hotel, laundry, hospital, textile plant, school or brewery, Everdur equipment is available from leading manufacturers.

Equally logical and satisfactory is the use of Everdur for many other applications. Among them: air-conditioning equipment, masonry anchors, drains and ducts, electrical metallic tubing, smoke washers and window cleaner bolts. For additional data, and names of fabricators, address our office nearest you.

EVERDUR METAL
"Everdur" is a registered trade-mark identifying products of The American Brass Company, made from alloys of copper, silicon and other elements.



THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut

Offices and Agencies in Principal Cities



EVERDUR METAL *for* TANKS

K 6
NEW BRYANT CATALOG



The new Bryant No. 34 Catalog of "Superior Wiring Devices" is now ready for distribution to interested architects. Compiled in compact form to facilitate handling and reference, it contains the most comprehensive line of Bryant

Wiring Devices ever shown in one catalog. It is fully illustrated and gives all essential dimensional data and wiring diagrams. Complete line of following products is shown: sockets and receptacles; convenience outlets; caps and connectors; switches, flush and surface; cut-out bases, fuses; "Sentinel" breakers; interchangeable switch; outlet and pilot devices. All are products of the Bryant Electric Company, Bridgeport, Conn.

K 7
CATALOGUE STORE FRONT CONSTRUCTION

Kawneer Store Fronts are described and illustrated in a complete catalogue released by the Kawneer Co., Niles, Michigan. Distinguishing features of the Kawneer construction are (1) resiliency of sash and bars to withstand shock and other pressure against the plate glass, (2) drainage and ventilation system which minimizes sweating of windows, (3) the glass holding members permit the use of varying glass thicknesses in adjoining position. The new catalogue contains many pages illustrating installations in use. Kawneer's products include metal doors and windows, frames, grilles, thresholds, metal signs, etc.

K 8
ANNOUNCING CORKANSTELE

Described as a new system of construction adapted to any type of building including low-cost residences, Corkanstele, a division of Cork Insulation Company of New York, uses the two materials cork and steel; steel is the framing and the cork boards are applied directly to it. Exterior and interior finish is applied to the cork. The system is classified as semi-fabricated. Six to ten days is the required time for construction of "medium residences"; from prepared foundation walls to completed structural inclosure. No collateral costs are incurred since the various building trades contracts are carried out as in ordinary structures. Since the entire structure is insulated by the cork, the wall and roof exposure may be discounted in computing heating and other air conditioning costs.

K 9
HEATING SYSTEMS

A fifty-six page booklet reviewing the principles of radiator heating is published by the American Radiator Company, under the title "Ideal Heating for Cottage or Skyscraper." After discussing the advantages of radiator heating, it explains the four methods of radiator heating: hot water, steam, vapor and vacuum, enumerating briefly the operating principles and advantages of each.

K 10
BULLETIN ON ACOUSTICAL MATERIALS

The Acoustical Materials Association announces the publication of Official Bulletin No. 2, dated September 1934, superseding Bulletin No. 1 published by the Association in February 1934. A number of new acoustical materials have been tested since the previous bulletin was published and data on these will be included in the new bulletin. Data on some obsolete materials have been eliminated.

STRENGTH

Duriron is a solid cast metal alloy, not lined or coated. It has the necessary structural strength for a good construction job.

THE DURIRON COMPANY, Inc.
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DURIRON

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DRAIN PIPE

LOOK to the lighting!

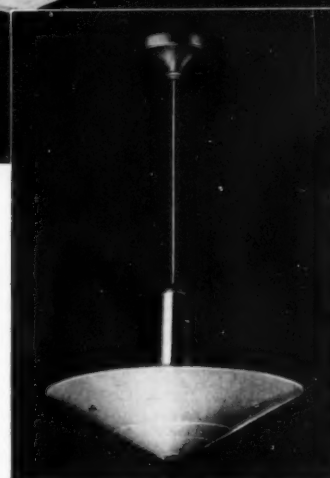


● Development and application of the Light Meter reveals that we are still working under candlelight intensities. As a result, new lighting standards are now recommended, providing for efficiency, eye conservation and comfort as well as decoration.

To meet these new standards, Westinghouse has developed Magnalux, a remarkable semi-indirect luminaire that produces glareless, shadowless, illumination. The efficiency of Magnalux is as high as 90 per cent, and its simplicity of design recom-

mends it as an attractive addition to the decorations of any room.

Architects are invited to write for the newly prepared Lighting Handbook . . . containing complete information on modern lighting, the design of interior lighting installations and the complete line of Westinghouse Commercial and Industrial Lighting Equipment. Write direct to Westinghouse Electric & Manufacturing Co., Lighting Division, Cleveland Works, Edgewater Park, Cleveland, Ohio.



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L I G H T I N G





YOU NEED THIS NEW CATALOGUE IN YOUR BUSINESS

The new A.P.W. Catalogue of towel and tissue cabinets and fixtures is yours for the asking. It is convenient in size, yet gives complete data with working drawings where needed to make it easy to fit the A.P.W. washroom service into your specifications. Prices, of course, are quoted on all items, and as this new catalogue, No. 45, supersedes all previous lists, you'll need it in working up your estimates.

A.P.W. towels and tissues and their cabinets have been the standard for quality for years in homes, offices, factories, and institutions. They are products your clients will recognize from their own experience as giving the finest, most economical service. Be sure to specify A.P.W. products in your plans.

Send for A.P.W. Catalogue No. 45 today—here's the coupon.



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Gentlemen:

Please send me at once without cost or obligation your 1934 Catalogue, No. 45.

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K 11

NEW OIL HEATING UNIT AND CONDITIONED WARM-AIR UNIT

The Gilbarco automatic oil heat unit, produced by Gilbert & Barker Mfg. Company of Springfield, Mass. is said to incorporate noteworthy advantages in construction, operation and appearance. Fin-type sections are of cast iron, with metal-to-metal tightness between the sections. The sections are of such shape that the refractory of the combustion chamber is surrounded by water-backed cast iron. The width, length and shape of the flue gas-passes are such as to provide for maximum heat transfer to the boiler water. A domestic hot water heater is an integral part of the boiler. A combustion safety control, a pressure or high-limit control, low-water cut off and draft regulator are integral parts of the unit and are accessibly located within the jacket. The unit is completely insulated top, sides, front and rear with two-inch Aircel asbestos. The rear door is one-inch Banacoustic (sound proof). This is an economy factor and also renders the unit practically sound proof in operation.

Another Gilbarco product is the automatic conditioned warm air unit. Its functions include heating, cleansing, humidifying and circulating of air. Encased in a single unit are a standard Gilbarco pressure atomizing type oil burner, controlled by room thermostat, an area of dry type filters which can be vacuum cleaned or at low cost replaced entirely, adequate evaporation pans located above and between the radiating tubes through which the flue gasses pass, and for air circulation, a high capacity Sirocco type fan driven by a V-type belt that can be mounted on any one of three pulleys provided as part of the unit for any one of the three speeds necessary for correct circulation.

K 12

NEW 40-WATT MAZDA LUMILINE LAMP; COLOR FINISHES NOW AVAILABLE

Addition of a 40-watt size to the line of Mazda Lumiline lamps has been announced by the Incandescent Lamp Department of General Electric Company at Nela Park, Cleveland, Ohio. Heretofore, only 30 and 60-watt sizes were available. At the same time, announcement is made that the entire line of Lumiline lamps will be available in the following colors: straw, orange, moonlight blue, emerald, and pink. They are finding widespread application where space limitations necessitate a tubular source; in show cases, wall cases, and other locations where a continuous line of light is desired. Unlike the conventional screw-base lamps, the Lumilines may be placed end-to-end to produce a more nearly continuous light line with a minimum amount of dark area. Available in clear bulb as well as with diffusing coating, as are the other sizes, the newest lamp has a maximum over-all length of 11-7/8 inches, is made in voltages of 110, 115 and 120; has a bulb diameter of 1 inch, and is designed for a life of 1,500 hours.

equipment, for mill supplies, and for many other lines. In addition to the architectural file, Sweet's also issues catalog files for consulting engineers, for power plants, for the process industries, and for the mechanical industries.

However, the file used by architects is the pioneer as well as the most complete and representative of the field it serves. Its development blazed the trail, and its acceptance and use by architects served to prove the entire plan sound in both practice and theory.

Home Building in England

THE FEDERAL HOUSING ADMINISTRATION calls attention to the fact that there will be constructed in Great Britain this year, with government aid, a minimum of 300,000 houses, with a possible maximum of 400,000. The number of homes constructed in this country in 1933 was considerably under 50,000, and thus far, 1934 has shown little increase in this class of building. The disparity is further emphasized by the inverse ratio of the populations of the two countries—40,000,000 to 120,000,000.

Your 1935 Catalog File is Now in the Making

HAVE YOU EVER looked in Sweet's for a certain manufacturer's catalog and discovered it wasn't there? If you have, now is the time to bring it to his attention. Sweet's Catalog File (Architectural)—your catalog file—for 1935 is now being compiled.

To date, over 400 manufacturers have made provision for filing 1935 catalog information in your office in this convenient form, and many others are following suit daily.

Incidentally, the distribution of the new file will mark the 29th in an unbroken annual series, through good times and times not so good.

As We Were . . .



FIRE ESCAPES—1906. The artist of a quarter of a century ago did not pull his punches. You couldn't hang his pictures up-side-down and not know the difference. If commissioned to illustrate a fire, he produced a result which was—unmistakably—a devastating, rip-roaring, good blaze. This hectic scene, reproduced from a manufacturer's catalog in the first Sweet's, demonstrates the workings of a product which is as reliable today as it was then.

Building Review

Construction volume for 1934, although not totalling as much as all of us would like to see, is 76% greater than it was for the same period in 1933. In fact, contract awards for the first eight months of 1934 add up to more than the total recorded for the first eleven months of 1933.

A review of the amount of work done in some classes of construction during the past twelve months indicates the trend:

Classification	No. of Projects	Valuation
Dwellings	29,488	\$143,690,600
Apartments	2,354	43,213,300
Hotels	480	5,000,700
Housing Developments	1,429	26,063,400
Office Buildings	1,475	29,551,700
Stores	11,046	56,631,200
Banks	195	4,973,400
Warehouses	2,057	25,489,800
Garages	4,354	19,804,500
Schools	3,642	90,144,500
Libraries	274	11,290,000
Hospitals	517	38,171,800
Churches	1,074	14,301,100
Theatres	594	13,054,600
Park Buildings	1,074	21,046,600
City Halls	898	18,573,900
Post Offices	146	6,030,300
Fire and Police Stations	356	7,362,400
Factories	3,347	107,261,300
Central Stations	684	34,958,700
Terminals	344	15,756,000

ROOFING FAILURES NO. 9 OF A SERIES

Send for the folder which shows these photomicrographs enlarged. They constitute one of the most important studies ever made of the most important point about roofing . . . the property of self-healing.

Most of the roofing failures are due to the failure to heal. Read this bulletin.



Other Koppers Products: Membrane Waterproofing; Dampproofing; Tar Aluminum Paints; Plaster Bond Paints; Tarmac Road Tar for Streets, Pavements, Drives, Highways.

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ROOF
HEALED
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HOW A
SMOOTH-TOP
ROOF
FAILED TO
HEAL

*For Roofing and
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A Gravel or Slag Surface

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Birmingham Boston Chicago New York
Providence St. Louis

Send me copy of the photomicrograph folder.

Name

Address

K 13 CONSERVATORIES

Under the National Housing Act it is possible for home owners to borrow money, in the authorized manner, for the construction of a conservatory or garden sun room in connection with a home. The photograph illustrates a typical leanto conservatory, designed and manufactured by Lord & Burnham Company, Irvington-On-Hudson, New York. In addition to the many standard designs there are unlimited architectural possibilities for a glassed-over room built in conjunction with a residence. Manufacturer points out that in addition to the primary use of conservatories—growing flowers—the refreshing atmosphere and presence of sun rays make the conservatory a serviceable room for rest and recreation.



K 14 FIREPROOF HOMES

Three booklets are released by the Portland Cement Association. One, "Home at Last," describes a

house constructed in Omaha, Nebraska, which was designed as a model modern house to acquaint residents of that city with modern architectural achievements in design and use of materials. Another booklet, "Our New Home Is Fireproof," describes and illustrates a residence designed by Amos Emery of Des Moines, Iowa. "Low-Cost Fireproof Homes," the third booklet, contains plans and renderings of twenty residences, selected as model examples of the use of concrete construction in home building.

TRADE ANNOUNCEMENT

CREO-DIPT COMPANY, INC.

The Creo-Dipt Company, Inc., of North Tona-wanda, New York, has been reorganized and H. P. Kendall, Jr., has resumed active management of the business as President and General Manager, effective as of September 4, 1934. Mr. Kendall was one of the principals of the original Creo-Dipt business, almost from its inception, becoming President and General Manager. In 1927 he disposed of his interest and resigned as President and General Manager. During the past four years he has been a General Supervisor in the Group Insurance Division of the Metropolitan Life Insurance Company. Associated with Mr. Kendall will be Fred Engelking, Chairman of the Board, Stephen R. Kiehel, Vice President, and W. W. Faulkner, Secretary and Treasurer.